

LAUER, LARRY L., Ph. D. Playing Tough and Clean Hockey: Developing Emotional Management Skills to Reduce Individual Player Aggression. (2005)  
Directed by Dr. Daniel Gould. 385pp.

Aggression in youth ice hockey is prevalent and has many negative consequences including the possibility of injury (Widmeyer & McGuire, 1993). Multiple antecedents lead to aggression (Bushman & Anderson, 2001), however, emotions and related cognitions are often the precursor. Very few attempts have been made to control aggressive behavior in sport. Therefore, the Playing Tough and Clean Hockey Program is a nine session program created to teach youth ice hockey players emotional management skills to reduce aggressive behavior while continuing to play physical hockey. Four youth ice hockey players participated in a season long (30 or more games per participant) single-subject multiple baseline AB (baseline, program) design study.

The study had two purposes, (1) examine the program's influence on the emotional control, emotional toughness, and aggressive behavior of participants, and, (2) to conduct an evaluation of the program's effectiveness. It was hypothesized that participants would have enhanced emotional control and toughness (i.e., ability to respond positively in an adverse situation) and would exhibit fewer acts of aggression following the program's implementation. Participants completed post-game reports after every game assessing their performance, emotions, aggressive feelings, emotion management, and emotional control skills success. Games were videotaped throughout the season to record instances of aggressive and retaliatory behaviors. Results revealed

that participants perceived the program enhanced their ability to maintain emotional control and toughness, and play tough and clean hockey. Correlations revealed that across the four participants' perceptions of emotional control and toughness were often positively associated with tough and clean hockey and negatively associated with perceptions of aggressive hockey. Analysis of on-ice aggressive acts showed that each participant was less aggressive in the program phase, but effect sizes varied with the greatest effects being found with the most aggressive player. Moreover, participants reduced the percentage of time they retaliated to being provoked. Participants felt the program was effective, thus suggesting it as method for teaching emotion management skills to youth hockey players to reduce aggression. Practical implications and future directions were forwarded, especially the need for sport psychology to view aggression as a more complex construct.

PLAYING TOUGH AND CLEAN HOCKEY: DEVELOPING EMOTIONAL  
MANAGEMENT SKILLS TO REDUCE INDIVIDUAL  
PLAYER AGGRESSION

by

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A Dissertation Submitted to  
the Faculty of The Graduate School at  
The University of North Carolina Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy

Greensboro

2005

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## APPROVAL PAGE

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The Graduate School at The University of North Carolina Greensboro.

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## ACKNOWLEDGMENTS

This study was completed successfully with the assistance of many people. First and foremost, the program would not have been completed without the participants and their families to which the author is indebted. Likewise, Ian McLauchlan of the Greater Lansing Amateur Hockey Association (GLAHA) deserves special recognition for supporting the program and recruiting players to it.

The author is very appreciative of the support and effort provided by research assistants Craig Paiement, Marguerite Pierce, Missy Wright, and Teri Hepler. In addition, Jon Rosin, Jerry Sweet, and Scott Despins were essential in the collection of data. The author also thanks Sarah Carson, Doug Cornish, Jeanine Scrogum, and Tsutomu Fuse for their assistance in the initial development of the Playing Tough and Clean Hockey Program. In addition, the author thanks Drs. Cal Botterill and Peter Haberl for reviewing the program. The author appreciates the effort and time provided by the committee including Drs. Diane Gill, Tom Martinek, and Terry Ackerman.

The author extends a special thank you to his committee advisor Dr. Dan Gould for providing tremendous insight, support, and challenge to be his best. Without his mentoring this program study would not have been possible. Finally, the author appreciates and is truly grateful to his fiancée Dr. Amy Reed, and his parents Larry and Sharyon, for their unwavering support over the years.

## TABLE OF CONTENTS

|   | Page |
|---|------|
| LIST OF TABLES .....  | ix   |
| LIST OF FIGURES .....   | xi   |
| <br>CHAPTER   |      |
| I. INTRODUCTION AND REVIEW OF LITERATURE .....                                | 1    |
| The Prevalence of Aggression in Ice Hockey .....                              | 3    |
| Negative Consequences of Aggression .....                                     | 5    |
| The Confusion Over the Definition of Aggression .....                         | 9    |
| Sources of Hockey Aggression .....  | 11   |
| The Hockey Environment .....  | 11   |
| Learning Aggression .....   | 15   |
| Emotion in Hockey .....   | 19   |
| A Model of Emotion and Aggression .....                                       | 20   |
| The Functional Value of Emotion .....   | 21   |
| Anger, Frustration, and Embarrassment .....                                   | 22   |
| Brief Review of Techniques to Manage Anger and Frustration .....              | 25   |
| Review of Techniques to Manage Aggressive Behavior .....                      | 28   |
| A Need Exists to Control Emotions and Aggression in Youth Ice<br>Hockey ..... | 30   |
| Playing Tough and Clean Hockey Program .....                                  | 31   |
| Emotional Control .....   | 32   |
| Emotional Toughness .....   | 32   |
| The 3 R's Routine for Emotional Toughness .....                               | 33   |
| Need for the Playing Tough and Clean Hockey Program and this Study .....      | 34   |
| Purposes .....  | 35   |
| Hypotheses .....  | 35   |
| II. METHOD .....  | 36   |
| The Investigator .....  | 36   |
| Participants .....  | 37   |
| Design .....  | 37   |
| Data Sources .....  | 39   |
| Post-Game Self-Report Emotion and Feeling State Log .....                     | 40   |
| Game Video .....  | 44   |
| Program Test .....  | 45   |
| Playing Tough and Clean Hockey Program Evaluation .....                       | 45   |

|  |     |
|--|-----|
| Formative Evaluation of the Playing Tough and Clean Hockey Program.....  | 46  |
| Procedures.....  | 47  |
| Participant Recruitment .....  | 47  |
| Video Procedures .....   | 49  |
| Pre-Program Interview Procedures .....   | 49  |
| Playing Tough and Clean Hockey Program Components .....  | 50  |
| Revising the Playing Tough and Clean Hockey Program into an Individual Program .....   | 50  |
| Activities and Exercises to Learn Program Components .....   | 51  |
| Program Implementation Procedures.....   | 55  |
| Data Analysis .....  | 62  |
| Purpose 1.....   | 62  |
| Purpose 2.....   | 68  |
| Playing Tough and Clean Hockey Program Procedural Evaluation.....  | 69  |
| Expert Review.....   | 69  |
| Was the Program Reliably Implemented? .....  | 72  |
| Were the Participants Appropriately Selected? .....  | 73  |
| III. RESULTS .....   | 75  |
| Purpose 1: Influence of the Playing Tough and Clean Hockey Program on Participants' Emotional Control, Emotional Toughness, and Aggression ..... | 75  |
| Participant 1 .....  | 75  |
| Did Participant 1 Learn the Program and Use Program Skills?.....   | 87  |
| Hypothesis 1: Program will Enhance Participant 1's Emotional Control and Toughness .....   | 91  |
| Hypothesis 2: Following Program Implementation Participant 1 will Exhibit Fewer Aggressive Acts .....  | 100 |
| Participant 2 .....  | 106 |
| Did Participant 2 Learn the Program and Use Program Skills?.....   | 119 |
| Hypothesis 1: Program will Enhance Participant 2's Emotional Control and Toughness .....   | 123 |
| Hypothesis 2: Following Program Implementation Participant 2 will Exhibit Fewer Aggressive Acts .....  | 130 |
| Participant 3 .....  | 134 |
| Did Participant 3 Learn the Program and Use Program Skills?.....   | 146 |
| Hypothesis 1: Program will Enhance Participant 3's Emotional Control and Toughness .....   | 149 |
| Hypothesis 2: Following Program Implementation Participant 3 will Exhibit Fewer Aggressive Acts .....  | 158 |
| Participant 4 .....  | 163 |
| Did Participant 4 Learn the Program and Use Program Skills?.....   | 177 |



|   |     |
|---|-----|
| Hypothesis 1: Program will Enhance Participant 4's Emotional Control and Toughness .....  | 181 |
| Hypothesis 2: Following Program Implementation Participant 4 will Exhibit Fewer Aggressive Acts .....                                   | 189 |
| Comparison of Program Effects on Participants.....  | 194 |
| Purpose 2: Evaluation of the Effectiveness of the Playing Tough and Clean Hockey Program.....   | 196 |
| Did Participants Comprehend the Content of the Program?.....  | 196 |
| Did Participants Perceive the Program as Enjoyable and Beneficial to their Development as a Hockey Player?.....                         | 197 |
| Summary of the Playing Tough and Clean Hockey Program Evaluation .....  | 201 |
| Summary of the Results .....  | 202 |
| P1 Summary Results .....  | 202 |
| P2 Summary Results .....  | 202 |
| P3 Summary Results .....  | 203 |
| P4 Summary Results .....  | 203 |
| Overall Results Summary .....   | 203 |
| IV. DISCUSSION.....   | 206 |
| Prevalence of Aggression .....  | 206 |
| Purpose 1: Evaluate the Influence of the Program on Participants' Emotional Control, Emotional Toughness, and Aggressive Behavior ..... | 207 |
| Hypothesis 1: Increased Emotional Control and Emotional Toughness will Follow Program Implementation.....                               | 208 |
| Hypothesis 2: Fewer Acts of Aggression will occur Following Program Implementation .....  | 213 |
| Purpose 2: Formative Evaluation of the Effectiveness of the Playing Tough and Clean Hockey Program.....                                 | 220 |
| Programmatic Advances .....   | 224 |
| Evaluation of the 3 R's .....   | 227 |
| Program Changes .....   | 229 |
| Current Study Strengths.....  | 230 |
| The Program Fills an Important Need .....   | 230 |
| Positive Social Evaluation .....  | 231 |
| The Program's Design .....  | 231 |
| A Formative Program Evaluation was Conducted.....   | 233 |
| Methodological Advances .....   | 233 |
| Limitations/Concerns with the Current Study .....   | 234 |
| Participant Recruitment Concerns .....  | 234 |
| Lack of On-Ice Practice of Emotional Toughness Skills.....  | 236 |
| Methodological Limitations.....   | 237 |
| Practical Implications.....   | 243 |

|  |     |
|--|-----|
| The Program as a Template for Future Sport Aggression            |     |
| Reduction Efforts .....  | 243 |
| Implications for Future Research in Youth Sport Aggression ..... | 245 |
| Future Directions .....  | 249 |
| Future Research .....  | 249 |
| Broaden the Impact of the Playing Tough and Clean Hockey         |     |
| Program.....   | 251 |
| Summary .....  | 254 |
| Lessons Learned.....   | 254 |
| Summary of the Findings.....                                     | 255 |
| Conclusion: It is Time to Play Tough and Clean Hockey .....      | 256 |
| REFERENCES .....   | 259 |
| APPENDIX A. HEURISTIC MODEL OF ICE HOCKEY AGGRESSION             |     |
| AND PERFORMANCE .....  | 268 |
| APPENDIX B. PLAYING TOUGH AND CLEAN HOCKEY PROGRAM               |     |
| (INDIVIDUAL VERSION).....  | 269 |
| APPENDIX C1. POST-GAME SELF-REPORT EMOTION AND FEELING           |     |
| STATE LOG (BASELINE).....  | 320 |
| APPENDIX C2. POST-GAME SELF-REPORT EMOTION AND                   |     |
| FEELING STATE LOG (TREATMENT) .....                              | 322 |
| APPENDIX D. VIDEO CODING SHEET .....                             | 324 |
| APPENDIX E. PROGRAM TEST .....                                   | 325 |
| APPENDIX F. PROGRAM EVALUATION.....                              | 329 |
| APPENDIX G. PRE-PROGRAM INTERVIEW GUIDE.....                     | 332 |
| APPENDIX H1. PLAYING TOUGH AND CLEAN HOCKEY                      |     |
| BROCHURE.....  | 334 |
| APPENDIX H2. EMAIL TO COACHES ABOUT PROGRAM.....                 | 337 |
| APPENDIX I. PROGRAM INTERVENTION SESSION AND EXERCISE/           |     |
| STRATEGY MATRIX.....   | 339 |
| APPENDIX J. PLAYING TOUGH AND CLEAN HOCKEY PROGRAM               |     |
| (INDIVIDUAL VERSION) INSTRUCTOR GUIDE .....                      | 344 |

|  |     |
|--|-----|
| APPENDIX K. PROCEDURAL RELIABILITY ASSESSMENT .....                      | 370 |
| APPENDIX L. PROGRAM REVIEW LETTER TO REVIEWERS .....                     | 371 |
| APPENDIX M. EXPERT REVIEW SUMMARY RECOMMENDATIONS<br>AND REVISIONS ..... | 379 |

## LIST OF TABLES

|  | Page |
|--|------|
| 1 - Descriptions of Illegal Hitting Learned from Watching Professional Hockey .....                | 17   |
| 2 - Cognitive, Somatic, and Behavioral Techniques for Controlling Emotion.....                     | 27   |
| 3 - Data Source Matrix.....  | 41   |
| 4 - How Effective was the Program in Helping P1?.....  | 88   |
| 5 - P1's Evaluation of the Process of Learning Program Skills.....                                 | 89   |
| 6 - P1's Ability to Use Program Skills in Practice, Games, and in Life.....                        | 90   |
| 7 - Participant 1 Post-Game Reports of Performance, Emotions, and Feeling<br>States by Phase.....  | 92   |
| 8 - Participant 1 Intercorrelation Matrix Baseline Phase .....                                     | 97   |
| 9 - Participant 1 Intercorrelation Matrix Program Phase .....                                      | 98   |
| 10 - Participant 1 Frequency Breakdown of Aggressive Acts.....                                     | 101  |
| 11 - Participant 1 Aggressive Acts by Phase of Study.....  | 102  |
| 12 - How Effective was the Program in Helping P2?.....   | 120  |
| 13 - P2's Evaluation of the Process of Learning Program Skills.....                                | 121  |
| 14 - P2's Ability to Use Program Skills in Practice, Games, and in Life.....                       | 122  |
| 15 - Participant 2 Post-Game Reports of Performance, Emotions, and Feeling<br>States by Phase..... | 124  |
| 16 - Participant 2 Intercorrelation Matrix Baseline Phase .....                                    | 127  |
| 17 - Participant 2 Intercorrelation Matrix Program Phase .....                                     | 128  |
| 18 - Participant 2 Frequency Breakdown of Aggressive Acts.....                                     | 131  |
| 19 - Participant 2 Aggressive Acts by Phase of Study.....  | 132  |

|  |     |
|--|-----|
| 20 - How Effective was the Program in Helping P3?.....   | 147 |
| 21 - P3's Evaluation of the Process of Learning Program Skills.....                                | 148 |
| 22 - P3's Ability to Use Program Skills in Practice, Games, and in Life.....                       | 148 |
| 23 - Participant 3 Post-Game Reports of Performance, Emotions, and Feeling<br>States by Phase..... | 151 |
| 24 - Participant 3 Intercorrelation Matrix Baseline Phase .....                                    | 155 |
| 25 - Participant 3 Intercorrelation Matrix Program Phase .....                                     | 156 |
| 26 - Participant 3 Frequency Breakdown of Aggressive Acts.....                                     | 159 |
| 27 - Participant 3 Aggressive Acts by Phase of Study.....  | 160 |
| 28 - How Effective was the Program in Helping P4?.....   | 178 |
| 29 - P4's Evaluation of the Process of Learning Program Skills.....                                | 179 |
| 30 - P4's Ability to Use Program Skills in Practice, Games, and in Life.....                       | 180 |
| 31 - Participant 4 Post-Game Reports of Performance, Emotions, and Feeling<br>States by Phase..... | 182 |
| 32 - Participant 4 Intercorrelation Matrix Baseline Phase .....                                    | 185 |
| 33 - Participant 4 Intercorrelation Matrix Program Phase .....                                     | 186 |
| 34 - Participant 4 Frequency Breakdown of Aggressive Acts.....                                     | 190 |
| 35 - Participant 4 Aggressive Acts by Phase of Study.....  | 191 |
| 36 - How Effective was the Program in Helping Players .....  | 198 |
| 37 - Player Evaluation of the Process of Learning Program Skills.....                              | 199 |
| 38 - Number of Participants Able to Use Program Skills in Practice, Games, and<br>in Life.....     | 200 |

## LIST OF FIGURES

|   | Page |
|---|------|
| 1 - A Sports Violence Typology .....  | 12   |
| 2 - Model of Emotion and Aggression.....  | 21   |
| 3 - Study Design.....   | 38   |
| 4 - Categorization of Minor versus Major Aggressive Acts .....  | 65   |
| 5a - Example Player Aggression at Baseline .....  | 67   |
| 5b - Example Player Aggression During Treatment.....  | 68   |
| 6 - Participant 1 Self-Report of Emotional Toughness during Baseline and Program<br>Phases.....       | 94   |
| 7 - Participant 1 Self-Report of Magnitude of Tough and Clean and Dirty and<br>Aggressive Play .....  | 95   |
| 8 - Participant 1 Aggressive Acts per Game, Baseline and Program Phases.....                          | 103  |
| 9 - Participant 1 Percentage of Retaliations to Being Provoked (Critical Incidences) ....             | 105  |
| 10 - Participant 1 Frequency of Retaliation to Being Provoked (Critical Incidences) ....              | 106  |
| 11 - Participant 2 Self-Report of Magnitude of Tough and Clean and Dirty and<br>Aggressive Play ..... | 126  |
| 12 - Participant 2 Aggressive Acts per Game, Baseline and Program Phases.....                         | 133  |
| 13 - Participant 3 Self-Report of Emotional Toughness during Baseline and Program<br>Phases.....      | 152  |
| 14 - Participant 3 Self-Report of Magnitude of Tough and Clean and Dirty and<br>Aggressive Play ..... | 153  |
| 15 - Participant 3 Aggressive Acts per Game, Baseline and Program Phases.....                         | 161  |
| 16 - Participant 3 Percentage of Retaliations to Being Provoked (Critical Incidences) ..              | 162  |
| 17 - Participant 3 Frequency of Retaliation to Being Provoked (Critical Incidences) ....              | 163  |

|   |     |
|---|-----|
| 18 - Participant 4 Self-Report of Magnitude of Tough and Clean and Dirty and Aggressive Play .....                  | 184 |
| 19 - Participant 4 Aggressive Acts per Game, Baseline and Program Phases.....                                       | 192 |
| 20 - Participant 4 Percentage of Retaliations to Being Provoked (Critical Incidences) ..                            | 193 |
| 21 - Participant 4 Frequency of Retaliation to Being Provoked (Critical Incidences) ....                            | 194 |
| 22 - Mean Aggressive Acts Exhibited by Program Participants in a Hockey Season.....                                 | 195 |
| 23 - Summary of Change in each Participant .....  | 205 |
| 24 - Participants' Self-Reported Emotional Control During Baseline and Program Phases.....                          | 208 |
| 25 - Participants' Self-Reported Emotional Toughness in Adverse Situations During Baseline and Program Phases ..... | 209 |
| 26 - Participants' Mean Aggressive Acts Baseline and Program .....  | 214 |
| 27 - Participants' Percentage of Retaliation when Provoked Baseline and Program .....                               | 216 |
| 28 - Participants' Major Aggressive Acts Baseline and Program.....  | 219 |

## CHAPTER I

### INTRODUCTION AND REVIEW OF LITERATURE

Ice hockey is a fast-paced, high-intensity sport that involves players skating upwards of 20 miles per hour (mph) and shooting pucks over 80 mph. Moreover, it is a physical game played in a confined space leading to much contact. Without a doubt, hockey elicits much passion and emotion from its participants. The problem with emotion in hockey is when it leads to aggressive behavior. Several recent incidents in professional hockey were credited to a lack of emotional control. In March of 2004, the Philadelphia Flyers and Ottawa Senators combined for 419 penalty minutes, a National Hockey League (NHL) record, almost all of the minutes being administered for fighting and game misconducts. The melee was credited to the emotion of two teams with a history of ‘bad blood’ and close-checking playoff match-ups.

In an even more disturbing incident during the same month, Todd Bertuzzi of the Vancouver Canucks delivered a punch to the back of the head of Steve Moore of the Colorado Avalanche to exact revenge for Moore’s concussion-causing hit on Markus Naslund. Bertuzzi finished the aggressive incident by driving the helpless Moore face-first into the ice. Moore, lying in a puddle of his own blood, had fractured vertebra in his neck and will not see action for some time. The act was violent enough that even NHL players condemned it. “As NHL players, we get fired up and sometimes do stupid things



on the ice, but nobody wants to see injuries to the extent of Moore's," said Detroit veteran Brendan Shanahan (Canuck to explain hit on Moore, March 10, 2004). Comments made by hockey great Wayne Gretzky revealed how emotions play a role in aggressive hockey behavior.

Wayne Gretzky said it was an example of something that can happen in a sport that often turns violent. 'It's a very emotional game and you can quickly lose your temper and lose your focus,' the Hall of Famer said in Lakeland, Fla. (Canuck to explain hit on Moore, March 10, 2004).

Players in the NHL play an intense, emotional game. Unfortunately, the emotional intensity sometimes crosses the line into violent behavior. The Bertuzzi-Moore incident has sparked a full-scale barrage of media reports on the violence in professional hockey. The American College of Sports Medicine even issued a press release on March 12, 2004 requesting the NHL take steps to make the game safer for its players and present guidelines for sportsmanship in professional and youth hockey.

Youth ice hockey models itself after the professional game in many ways. This includes how players' dress in equipment, to rules on checking, and to how players idolize (Nash & Lerner, 1981) and wear the number of their favorite star. The environment of youth ice hockey also resembles professional hockey (Nash & Lerner, 1981) with an emphasis on playing with much effort and intensity. Youth ice hockey players compete in an intense environment ripe with emotion. Hence, youth hockey has its own inherent pressures including trying to impress one's parents, teammates, or coaches, attempting to put on a 'macho' image, competing for positions, winning/losing, and proving one's competence. Thus, the emotion and importance of youth hockey to its

participants may be no less than to professional hockey players. Consequently, youth hockey also has an aggression problem. Moreover, unlike adults, youth hockey players are less physically, mentally, and emotionally prepared to control their emotions (Harris, 2001) and feelings of aggression. Hence, emotional control is essential in youth hockey because many incidences of aggression are related to a lack of emotional control (Lauer, Carson, Cornish, & Gould, 2003).

### The Prevalence of Aggression in Ice Hockey

Unfortunately, with the passion and emotion that makes ice hockey such a great game has been a rise in aggressive behavior (i.e., the intent to harm another human being). For instance, in a grant study funded by the USA Hockey Foundation with 13 to 14 year old hockey players, the author and his colleagues (Lauer et al., 2003) witnessed video of a goaltender (from an opposing team) attacking a member of the program team in the face with his stick.

Aggression does seem to be a problem in youth hockey, and is probably underestimated by sport scientists. Specifically, research in the past has underestimated the frequency of aggression occurring in youth hockey because of its reliance on penalty data. Recent research with two teams of 13-14 year old hockey players showed they were aggressive 9.6 and 7.5 times per game (Lauer, et al., 2003). This rate is much greater than the rate published by Widmeyer, Dorsch, Bray, and McGuire (2002) of 5.0 penalty minutes per game with 11-12 year old players. The difference in rates can be equated to our research team coding aggressive behavior not based on penalties assessed, but on judging each aggressive act regardless if it was penalized (Lauer, et al., 2003). In a recent

observation of two adult ice hockey games, a total of 38 physical acts of aggression were recorded across both teams (Kirker, Tenenbaum, & Mattson, 2000), a frequency close to the findings of Lauer and his colleagues with youth hockey players. The researchers also observed 28 nonphysical acts of aggression (i.e., verbal self-abuse or abuse of another player or referee) that neither of the previously mentioned studies assessed.

The majority of aggression research has attempted to measure aggression indirectly by assessing, for example, players' legitimization of aggression (Conroy, Silva, Newcomer, Walker, & Johnson, 2001) or moral reasoning (Bredemeier, 1994). An interesting line of investigations has revealed the prevalence of aggression by examining a player's desire to physically injure an opponent. Widmeyer and colleagues (2002) listed results of 16 studies' relative to the frequency of a player wanting to physically injure an opponent. Taken from a variety of contact sports including hockey, it was revealed that players wanted to injure an opponent at least once per game 11.1% to 77.1% of the time. When specifically examining this research in university hockey, two studies revealed that players wanted to injure an opponent at least once per game 31.0% (Brice, 1990) and 24.1% of the time (Widmeyer et al., 2002). In Pee Wee hockey it was found that players wanted to injure an opponent at least once per game 38.8% of the time (Widmeyer et al., 2002), and in high school hockey that number greatly increased to 77.7% of the time (Sanszole cited in Widmeyer et al., 2002). Thus, indirect measures of aggression also reveal a disturbing pattern of aggressive feelings in youth ice hockey. With the ethical inappropriateness and potential tragic consequences of aggression, the rate of aggression

and frequency of desires to harm an opponent in adolescent ice hockey players is disconcerting.

### Negative Consequences of Aggression

Although many players believe that aggression can have positive outcomes including enhanced performance and respect from teammates (Lauer, 1998), the negative effects of aggression far outweigh any benefits. The greatest consequence of aggression is increased rates of injury, and specifically, catastrophic injuries. Research reveals that aggression in ice hockey accounts for 50% of all injuries (Lorentzen, Werden, & Pietila, 1988) and greatly increases chances of a player receiving an injury (Widmeyer & McGuire, 1993). Even more telling is a finding by Tator, Carson, and Cushman (2000). Over a thirty-year period in Canadian minor and junior hockey (generally ages 16-20) 40% of spinal cord injuries were the result of checking from behind, a form of aggression. Therefore, a strong relationship exists relative to aggression not only increasing one's chances of being injured, but also being more seriously injured (Smith, Stuart, Colbenson, & Kronebusch, 2000; Watson, Singer, & Sproule, 1996).

A second negative consequence of hockey aggression is that it may transfer into other situations. Players that are aggressive often have lower levels of moral reasoning (Bredemeier, 1994). This may lead to more off-the-ice aggressive behavior. Research has rarely investigated this relationship. Bredemeier, Wiess, Shields, and Cooper (1986) examined the moral reasoning and aggressive tendencies in and out of sport of 4<sup>th</sup>-7<sup>th</sup> grade children in a youth sport camp. Boys in high contact sports (i.e., football, wrestling, and judo) and girls in medium contact sports (i.e., basketball and soccer) self-reported

that they were more aggressive in sport and in daily life. Bloom and Smith (1996) found that older hockey players in select leagues more often condoned violence in their sport and in other sports. However, select league players were not more approving of family violence. Still, it has often been assumed that what we teach in the rink impacts behavior off the ice. With USA Hockey's commitment to sportspersonship and safety in youth hockey, the learning of aggressive behaviors in hockey and the potential transfer to other life situations is of primary concern.

A third problem with aggression in hockey is that it may "inflare" off-ice incidents. Observations of youth hockey games reveal that quite often aggression on the ice is a precursor to parent and coach problems off the ice. Most likely the emotion that is felt by a parent or coach following on-ice player aggression leads to increased verbal and physical aggression. The death of a hockey father in Massachusetts in 2000 is a horrifying example. Following some rough play on the ice, the fathers of the two children on the ice met outside the rink and fought in front of their children. The fight turned deadly as one father beat the other father into a coma. Recently, there has been an emphasis within USA Hockey to eliminate these off-ice problems. The zero tolerance rule and codes of conduct for parents, spectators, and coaches has helped to control behavior. Nonetheless, problems continue to occur and removing what is often the source of parent and coach problems, on-ice aggression, would have a huge impact in achieving this objective.

A fourth negative consequence of hockey aggression is that aggression may impede the learning of skills. Although research on the aggression-performance relationship is

mixed (Lauer, 1998; Gill, 1986), in the only controlled investigation on sport aggression, basketball players made significantly less shots when aggressive (Silva, 1979).

Aggression was related to increased arousal, and concentration on retaliation instead of performance. Therefore, players did not perform as well when aggressive. It makes sense that players focused on hurting an opponent or exacting revenge are going to be less likely to receive the opportunities to hone their skills in games for two reasons. One, these aggressive players will not be focused on the puck necessarily and may miss opportunities to handle the puck or score a goal. And, two, aggressive players should spend more time in the penalty box, thus reducing their time on the ice and opportunity to execute hockey skills under the pressure of competition.

Certainly, aggression in ice hockey takes on different forms than basketball aggression. Many instrumental aggressive behaviors in hockey can lead to puck retrieval and scoring opportunities. However, it makes intuitive sense that aggression impedes skill development. Spending time in the penalty box does not enhance skills. Moreover, players that are more focused on retaliating or ‘making the big hit’ are not concentrating on the skillful aspects of the game. Hence, their skills are often less developed and can breakdown in pressure situations. Aggression has implications for the development of elite hockey players in the United States. If players are more focused on hurting their opponents at the Bantam and Midget levels (which often occurs), and are spending much time in the penalty box, then the hockey skills development of our players will fall behind that of European countries and Canada. Research is needed on these issues to go beyond anecdotal claims.

A fifth negative consequence of aggression is intimidation. Aggression is often used by hockey players to 'send a message' to their opponent. Psychological harm is created by the threat of another. In hockey, intimidation often occurs in the form of pushing and shoving after the whistle. The greatest concern with intimidation in youth hockey is that it may push players out of the game. Anecdotally, the author has witnessed players lose their enjoyment of the game once players begin to check at age 11. The fear and intimidation factor is very evident in youth hockey. Although intimidation and psychological harm are very difficult to measure, Widmeyer and colleagues (2002) have indirectly measured psychological harm by the percentage of athletes reported wanting to psychologically harm their opponent. In many different sports, the frequency of wanting to psychologically harm an opponent at least once per game ranged from 44%-89%. Specific to ice hockey, Brice (1990) found that 69% of university hockey players wanted to psychologically harm their opponent at least once per game, whereas Widmeyer and colleagues (2002) reported a percentage of 76.6% with Pee Wee hockey players, and Sanszole (cited in Widmeyer et al., 2002) found a percentage of intended psychological harm of 84.2% with high school hockey players. Clearly the intent to psychologically harm, and possibly intimidate an opponent, exists in ice hockey. What is not known is how often players are actually intimidated, and if this influences players' decisions to stop playing hockey.

A sixth consequence of hockey aggression is the learning of aggression. According to social learning theory, humans learn via modeling and reinforcement (Bandura, 1973). Research by Canadian sport sociologist Michael Smith (1979; 1983) revealed that

teammates, parents, and coaches reinforced aggression. Interviews uncovered that players learned aggression from watching professional hockey, and many of these players were attempting it in their youth hockey games. Social learning of aggressive behavior is an important concern that must be dealt with.

In summary, aggression leads to many negative consequences including increased possibility of injury, transfer of aggression to other life situations, inflammation of off-ice spectator violence, impediment of learning hockey skills, intimidation causing players to dropout, and the learning of aggression as a legitimate behavior. The negative consequences of hockey aggression clearly make the study of it important. Unfortunately, researchers have often been mired in confusion over the definition of aggressive behavior in sport (Silva, 1980).

#### The Confusion over the Definition of Aggression

Aggression in sport is defined as a behavior intended to harm another athlete, physically or psychologically (Lauer, 1998). Gill (1986) has determined that four criteria are necessary to define a behavior aggressive:

1. Aggression is a behavior (thinking about being aggressive does not constitute aggression).
2. Aggression is intentional.
3. Intent to harm or injure is involved.
4. Aggression is aimed at living beings.

Although criteria have been developed to scientifically define aggression, what constitutes aggressiveness and assertiveness in sport has long been confused (Silva,



1980). Assertiveness is distinguished by forceful behaviors (e.g., fore checking) that are not intended to harm another player (Husman & Silva, 1984), and is necessary to achieve hockey goals (Silva, 1980). However, the meaning of aggression among athletes and coaches is viewed as a behavior of high effort and intensity and is not always a negative behavior. It can involve assertive or harmful aggressive behavior as defined by the scientific community. Moreover, players have difficulty differentiating between assertive and aggressive behavior (Morra & Smith, 1996). Due to the mixed usage of the aggression and assertive constructs, aggression can be considered as “good” or “bad”, the “good” aggression constituting assertive behavior that is needed to play one’s best. “Bad” aggression would encompass ‘dirty and aggressive’ behaviors. This distinction helps youth hockey players differentiate between assertive and aggressive behavior (Nash & Lerner, 1981).

Two forms of aggression occur in ice hockey, hostile and instrumental aggression. Hostile aggression is executed with the goal of hurting someone, and is often more reactive (i.e., retaliating to a hit from behind by slashing him with the stick). Frequently, hostile aggression is preceded by emotions of anger (Buss & Perry, 1992) or frustration (Berkowitz, 1973). On the contrary, instrumental aggression is characterized by aggressive play with a non-aggressive goal (i.e., crosscheck an opponent to steal the puck). Instrumental aggression is often attempted because it will increase the chances of successful hockey performance. Players frequently see the inappropriateness of hostile aggression (Conroy, Silva, Newcomer, Walker, & Johnson, 2001; Smith, 1983), but instrumental aggression is often considered legitimate because it is supported in youth

hockey (Vaz, 1982) and may lead to positive outcomes (e.g., referee misses the infraction leading to a shot on goal). Conroy and colleagues (2001) suggested that players are more tolerant of aggression when the probability of receiving a penalty was low and the instrumental value was high.

### Sources of Hockey Aggression

Many different sources of sport aggression have been proposed ranging from heat and noise to personality (Cox, 1985). The list of sources is so long that it can cloud the most important or influential sources of aggression. Lauer (1998) created a heuristic model of ice hockey aggression and performance to display the proposed links in the sport aggression literature (see Appendix A). When examining this model, one must realize that each sport has a unique competitive environment with its idiosyncrasies and nuances. The sport of ice hockey is very different from other sports due to its structure, for instance, playing on ice, on skates, and with sticks and a frozen rubber puck inside boards. Thus, the sources of hockey aggression may be much different than, for example, NASCAR or swimming. Ice hockey is unique in that some forms of aggression such as fighting are normative and applauded in many situations (Smith, 1983).

#### *The Hockey Environment*

Hockey players have different perspectives, than society in general, on what constitutes illegal, dirty and aggressive play. This discrepancy has never been clearer than the recent surge of criticism from media and retorts from hockey analysts, coaches, and players on hockey aggression following Todd Bertuzzi's 'sucker-punch' to the back of Steve Moore's head (see Kelley, 2004; Ratto, 2004; and Melrose, 2004). The crux of the

debate is whether or not the informal norms of hockey are truly acceptable. Many hockey enthusiasts argue that hockey is separate from society and has its own norms, whereas some in (such as Ken Dryden, former goalie for Montreal, [Darling, 2004]) and outside of hockey would like to see the rules of society applied inside the rink. To understand this debate, one must first understand the informal norms of ice hockey.

Smith (1983) developed a typology of what is legitimate and illegitimate in hockey (see Figure 1). Hard checking and body contact are accepted behavior in ice hockey because it is within the rules. However, according to Smith, borderline violent behaviors such as fighting are informally accepted as legitimate in ice hockey. Thus, fighting, a behavior society considers being inappropriate, ice hockey deems legitimate. Other forms

Figure 1

#### A Sports Violence Typology

##### Relatively Legitimate

| Brutal Body Contact   | Borderline Violence  |
|---|--|
| Conforms to the official rules of the sport, hence legal in effect under the law of the land; more or less accepted.<br><i>e.g., a clean body check</i> | Violates the official rules of the sport and the law of the land, but widely accepted.<br><i>e.g., fighting 1-on-1, face-to-face</i> |

##### Relatively Illegitimate

| Quasi-criminal violence   | Criminal violence   |
|---|---|
| Violates the official rules of the sport, the law of the land, and to a significant degree informal player norms; more or less not accepted.<br><i>e.g., checking from behind into the boards</i> | Violates the official rules of the sport, the law of the land, and players' informal norms; not accepted.<br><i>e.g., vicious attack with stick to head</i> |

(Adapted from Smith, 1983)

of aggression (e.g., using the stick to hurt someone), which players label violent, are not as accepted in hockey. The following quote highlights this “gray area” of violence.

“Nobody really gets hurt fighting. The stick is a weapon, but if you drop the stick and go one on one, it’s okay. There’s no problem with fighting (Nash & Lerner, 1981, p. 232).”

Hence, a legitimization of aggression is occurring in ice hockey. If players are matched vis-à-vis then it is acceptable. Behaviors that are not acceptable in hockey include the stick fouls and cheap shots that sometime occur.

Others (meaning media or those against the status quo in hockey) will be calling for an end to fighting and a move to European rules, but they likely don't watch a lot of overseas hockey. If they did, they'd see that the European game is the dirtiest in the world. Players over there engage in all kinds of stickwork -- slashing, spearing, high-sticking -- and the physical play involves kicking and the like. There is no accountability or retribution, so a dirty player can run rampant all game long without having to face justice (Melrose, 2004).

Thus, there is a belief in hockey circles that fighting and intimidation allows players to control what happens on the ice. It is hockey justice vigilante-style that would make actor Charles Bronson of *Death Wish* fame very proud. To police the dirty play in hockey, each professional team has one or two players that are considered “fighters”, and that is their role. In a study of professional hockey players’ perspectives on aggression, 12.5% of players responded that the cause of aggression in hockey is to protect teammates and 10.4% responded intimidation is the source (Lauer, 1998). Although the percentages are not staggering, and are probably underreported because of the open-ended question employed. When players were asked about the mechanisms of aggression and performance (1=strongly disagree, 10=strongly agree), players felt that aggressive players

are effective in protecting star and finesse players ( $M=8.32$ ) and being aggressive intimidates the opposition ( $M=7.59$ ). Of note is that these two statements were the most highly agreed upon by players in the study.

Two significant problems exist with the distinctions hockey players make about aggression. First, it is very difficult to keep play within the boundaries of acceptable aggression when aggression begets aggression (Berkowitz, 1973), and usually more violent aggression. For example, Marty McSorley protected or 'rode shotgun' for Wayne Gretzky for years in Edmonton. McSorley's role was as protector and a fighter. Unfortunately in February of the 2000 NHL season, his reliance on intimidation and aggression crossed the line of acceptability when he hit Donald Brashear in the head with his stick from behind. Hence, it is very difficult to say 'be aggressive, but do not cross the line to violence.' Second, and most importantly, the professional model of hockey is influencing definitions of acceptable practices in youth ice hockey, including views on aggression (Smith, 1983; Nash & Lerner, 1981; Lauer, 1998).

Thus, the environment of hockey changes how a player reasons about aggression. Interviews with youth hockey players revealed that they felt they needed to be aggressive to be successful in moving up the ranks of hockey (Vaz, 1982), thus making aggression legitimate in this situation, a form of game reasoning (Bredemeier & Shields, 1986). This finding was replicated with professional hockey players retrospectively answering questions about how they view aggression (Lauer, 1998). Research on aggression in hockey has revealed convincingly that players do learn aggression from modeling and from being reinforced (Bandura, 1973; Smith, 1979 & 1983).

### *Learning Aggression*

In hockey, the source of aggression that has been proposed most often is learning. Hockey players are not biologically predisposed to be aggressive, but are products of a system that reinforces aggression (Vaz, 1982; Smith, 1979 & 1983; Lauer, 1998). Players learn to view aggression as a legitimate behavior within the boards and glass of the rink. Moreover, players believe aggression is necessary to move to the next competitive level of hockey (Conroy et. al., 2001). Coaches and scouts want players that are aggressive (Smith, 1979). Dave Schultz, former Philadelphia Flyers fighter, in an interview on ESPN radio talked about how he was never discouraged for fighting. The message that Schultz and other players (Vaz, 1982) receive from some coaches and scouts was that if you were not tough you would not make it at the next level. Lauer (1998) replicated this finding in a survey of 54 professional hockey players. They strongly agreed that scouts look for aggressive players and that personal recognition comes from playing rough.

According to Bandura (1973), one mode of learning is reinforcement. Research on the reinforcement of aggression in youth hockey reveals that teammates are the most important source of support for aggression (Clark, Vaz, Vetere, & Ward, 1978). Smith (1983) found that 78% of youth players sampled felt they had approval to fight from their peers. Additionally, in interviews with youth hockey players, Vaz (1982) determined that a teammate that 'backed down' from a fight was afforded less respect from teammates. Professional hockey players also felt that players who do not protect teammates by fighting or other aggressive tactics are not highly respected by teammates (Lauer, 1998).

Stephens and Kavanagh (2003) have recently shown that a team norm of hurting other players predicted the most variance in players' legitimization of aggression.

Research has not been as strong on the role of the coach in player aggression. Stephens (2001) found that basketball players would be aggressive if their coach asks. However, an observational study of Bantam coaches showed that only 2% of all coaching behaviors were encouraging of aggression or violating the rules (Cote, Trudel, Bernard, Boileau, & Marcotte, 1993). Although it is a positive finding that coaches are not overtly supporting aggression, player perception of coach support for aggression is more significant. Several researchers have detailed how players' perception of the coach's approval of aggression, regardless of the coach's overt behavior, leads to more aggression (Vaz, 1982; Smith, 1983; Stephens, 2001). Vaz (1982) found that 52% of players felt they had approval from their coach to fight. Clearly perception is more important than coach behavior because players believe they have approval to be aggressive. In addition, players are often confused when coaches ask players to play physical or tough and often consider this a sign to play illegally or rough (Morra & Smith, 1996). Thus, aggression is being supported in youth hockey because of this perception that it is a legitimate behavior, regardless of the support of the coach.

The role of parents in support of aggression has received little research. Smith (1979) found that as players became older and/or played in more competitive leagues, players believed their fathers tended to approve of fighting. For players ages 18-21, 41% felt that their fathers approved of fighting. On the other hand, only 7% of mothers approved of

fighting with the same age group. Relative to fighting back or retaliating, 75% of fathers and 47% of mothers were perceived by players to approve (Smith, 1975).

Bandura (1973) asserts that humans also learn from vicariously or modeling. Hence, players may learn to be aggressive by watching their role models execute such behaviors and be reinforced for it. Enlightening interview research with youth ice hockey players by Smith (1983) revealed that players learn aggressive behaviors from watching professional hockey, and attempt them in their games! Smith asked 604 interviewees, “Have you ever learned how to hit another player illegally in any way from watching professional hockey?” Fifty-six percent of the respondents affirmatively replied that they had learned illegal hitting from watching hockey. Smith then had the interviewees describe some of illegal behaviors they learned (see Table 1).

Table 1

*Descriptions of Illegal Hitting Learned from Watching Professional Hockey*

---

- I learned spearing and butt-ending.
- You sort of go on your side like turning a corner and trip him with a skate.
- Charging. You skate towards another guy who doesn’t have the puck and knock him down. Or coming up from behind and knocking him down.
- Sneaky elbows, little choppy slashes Bobby Clarke style.
- Hitting at weak points with the stick, say at the back of the legs.
- Getting a guy from behind. Getting a guy in the corner and giving him an elbow.



Table 1 (continued)

*Descriptions of Illegal Hitting Learned from Watching Professional Hockey*

---

- Coming up from behind and using your stick to hit the back of his skates and trip him.
  - Butt-end, spearing, slashing, high sticking, elbow in the head.
  - Put the elbow just a bit up and get him in the gut with your stick.
  - Wrap your arms over his shoulder from the back and tear his arms and stick.
  - Step forward and stick your foot in front of his foot.
  - Along the boards, if a player is coming along you angle him off by starting with your shoulder then bring up your elbow.
  - The way you “bug” in front of the net.
  - Clipping. Taking the guy’s feet out by sliding underneath.
  - Sticking the stick between their legs. Tripping as they go into the boards.
  - I’ve seen it and use it: when you check a guy, elbow him. If you get in a corner you can hook or spear him without getting caught.
  - Giving him a shot in the face as he is coming up to you. The ref can’t see the butt-ends.
  - Dirty tricks - butt-ending, spearing.
  - How to trip properly.
  - Like Gordie Howe, butt-ends when the ref isn’t looking.
- 

(Adapted from Smith, 1983)

Smith then asked the youth hockey players: “How many times during this season have you actually hit another player in this way?” Of the 604 respondents, 222 answered that they attempted one of these aggressive behaviors at least once or twice, and 90 players used them five or more times. An analysis of the official league records gave support to the verbal responses. Therefore, players in Smith’s study did learn and use aggressive behaviors modeled from other prominent players. Professional hockey players agreed that players learn via modeling (Lauer, 1998).

The research is very clear that players learn to be aggressive from being reinforced by significant others and by modeling. One can recognize how a player attempting an aggressive tactic such as an elbow in the head that he or she learned from watching professional hockey, and then subsequently being reinforced by the adulation and cheers of teammates, coaches, and parents, would lead to learning aggression. However, much of aggression occurs in response to being aggressed upon (Harrell, 1980) and involves emotion. Former Phoenix Coyote head coach Bob Francis summed up the relationship between aggression and emotion following a game against the Philadelphia Flyers. “You don’t want to retaliate, and that’s where controlling emotions comes into play...” (ESPN.com, October 18, 2003). Hence, an intervention to reduce aggression must recognize the important role of emotion.

### Emotion in Hockey

Emotion is considered to play an important role in human behavior and is frequently the source of aggression. Negative emotional responses to adverse situations or a lack of emotional toughness and control, often precede hockey aggression (Lauer et al., 2003).

Botterill and Brown (2002) assert that emotion is essential in sport performance and in building character through sport. The construct has been difficult to define, but there is consensus that emotion involves a subjective nature, physiological response, and action tendencies (Vallerand & Blanchard, 2000). Emotions are generally considered discrete, subjective feelings.

#### *A Model of Emotion and Aggression*

Emotions such as anger, frustration, and embarrassment are antecedents to the onset of aggressive behavior and are influenced by one's cognitive appraisal. The initial study of this intervention was influenced by two cognitive views of emotion. The intuitive-reflective appraisal model of emotion (Vallerand & Blanchard, 2000) asserts that the emotion is not a direct reaction to the environment, but that appraisal of the situations occurs first. Upon appraisal an emotional feeling occurs that subsequently influences behavior. A second, very influential model of emotion comes from Lazarus (2000), the cognitive-motivational-relational theory. The basic premise of this theory is that emotion is an interaction of personality and the environment. Lazarus contends, as does Vallerand, that cognitive appraisal plays a key role in the origin of emotion. First, you have an athletic encounter that leads to cognitive appraisal of the situation including primary and secondary appraisal. A subjective feeling of emotion and an action tendency or impulse follows this appraisal process. Coping resources then go into action, which includes emotion- and problem-focused coping. Finally, one's actions are influenced by this emotion and this action affects the environment (Crocker, Kowalski, Graham, & Kowalski, 2002). Lazarus' model has highly influenced the development of the emotion-

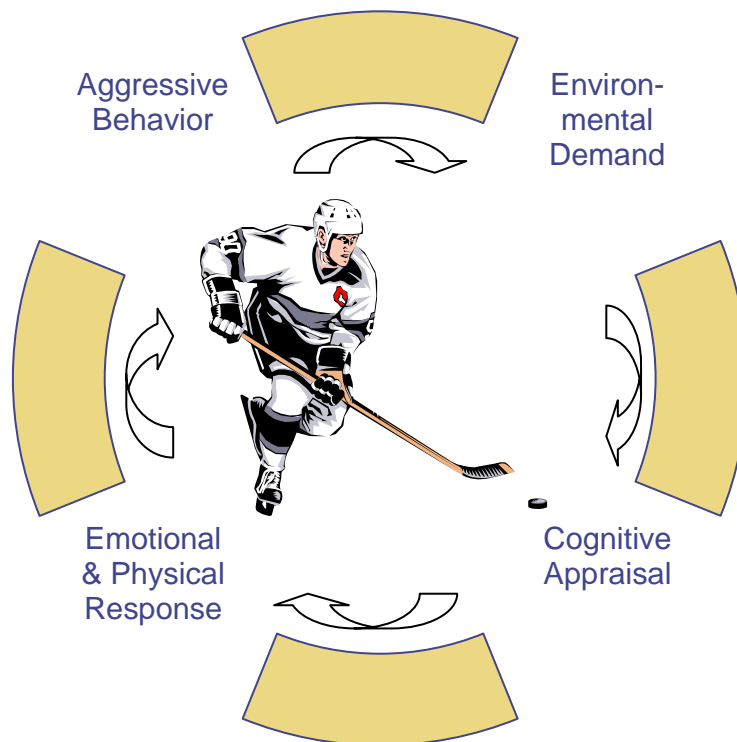
aggression conceptual model being followed in this model. The model of emotion and aggressive behavior is located in Figure 2.

### *The Functional Value of Emotion*

As Botterill and Brown (2002) have forwarded, each emotion has functional value. Even emotions often labeled as negative including anger, sadness, and frustration have evolutionary importance in human behavior. For example, anger leads to increased arousal and energy levels readying one to act. Guilt, and its close cousin embarrassment, involves one's feeling that he or she has not abided by society's moral standards (Lazarus, 2000). Guilt can compel one to reflect on their actions and change previously

Figure 2

### *Model of Emotion and Aggression*



immoral behavior. Therefore, it is important to consider the role that specific emotions play in aggressive behavior.

### *Anger, Frustration, and Embarrassment*

Researchers have proposed two major emotive or feeling state sources of aggression; anger and frustration. In this investigation a third source is proposed, guilt or embarrassment that may also increase incidences of aggressive behavior.

*Anger.* Anger has been defined based on its behavioral experience, but is better understood if one addresses the phenomenology of anger. Kassino and Sukhodolsky (1995) define anger as:

...a negative, phenomenological (or internal) feeling state associated with specific cognitive and perceptual distortions and deficiencies (e.g., misappraisals, errors, and attributions of blame, injustice, preventability, and/or intentionality), subjective labeling, physiological changes, and action tendencies to engage in socially constructed and reinforced organized behavioral scripts (p. 7).

Hence, angry individuals often make appraisals as to the source of their anger. For example, a player might react to a high stick by thinking 'did #22 hit me with his stick on purpose? Could this have been prevented?' And, according to Kassino and Sukhodolsky, angry individuals often make misappraisals and errors in judgment, which may lead to aggression even when the protagonist did not intentionally offend the player.

Anger is a natural precursor to aggression. Research on aggression has revealed a close relationship between feelings of anger and expression of aggression (Spielberger, Reheiser, & Sydeman, 1995; Isberg, 2000), an expected result. For instance, Buss and Perry (1992) delineated anger as an emotional component of aggression in their

development of an aggression questionnaire. Feelings of anger involve physiological arousal, elevated blood pressure, and preparation for aggression. Therefore, Buss and Perry considered anger a psychological bridge between cognitive feelings of ill will or hostility and physical or verbal aggression.

*Frustration.* A feeling state that has been closely connected to aggression is frustration. Frustration has been considered as aversive occurrences that generate inclinations to be aggressive if negative affect occurs. Berkowitz (1989) proposed that frustration increases the likelihood of aggression and does not depend upon a perception of deliberate unfair treatment or as a personal attack to the self, although aggression is very likely to occur in these situations (especially with repeated frustrations). Specific to the notion that repeated frustrations increase the probability of aggression, members of a comparison hockey team not receiving a program to reduce aggression exhibited high levels of frustration intensity that slightly decreased during the season ( $M = 3.74$  in period 1, and  $M = 3.47$  in period 3 on a scale of 1 = very slightly and 5 = extremely). Interestingly, these same players reported an increase throughout the study in their *frustration and willingness to harm an opponent* ( $M = 2.03$  in period 1, and  $M = 2.82$  in period 3, on a scale of 1 – not at all like me to 5 = exactly like me) (Lauer et al., 2003). This would support Berkowitz's contention that multiple frustration-inducing events increase feelings of aggression.

Frustration and aggression also may occur when one's goal attainment is hindered in a socially acceptable manner. Research suggests that thwarting of an anticipated goal that has importance usually is the catalyst of frustration. Although frustration does not

automatically lead to aggression, which has been proposed in the past, frustration does increase one's readiness to be aggressive (Berkowitz, 1989; Isberg, 2000). When frustration is combined with an environment where aggression is legitimate, aggression is more likely to occur. Hockey provides the context of legitimacy. As mentioned earlier, players recognize hockey as an environment where borderline violence is the norm (Smith, 1983). Once players step inside the boards and glass they are surrounded by cues such as sticks, teammates fighting, and crowd applause for aggression that makes it acceptable. Hence, it would seem likely that frustration might lead to increased aggression in hockey. Professional hockey players did agree that frustration increases the likelihood of aggression (Lauer, 1998).

*Embarrassment.* Concepts that have not received much attention in sport are embarrassment and shame. According to *New Webster's Dictionary* (1991), embarrassment is related to a feeling of shame. Lazarus (2000) contends that shame is not living up to a standard or ego-ideal. A hockey player may feel shame and embarrassment when they make a mistake such as scoring into their own net. In hockey, embarrassment and shame would be closely tied to a perception that one "left the team down." Players feeling shame are likely motivated to make up for presenting a less than competent image to his or her teammates. In this case the investigator would speculate that players may be apt to try too hard and make errors in judgment that could result in aggressive play. For example, professional players felt one method of gaining respect was to be aggressive (Lauer, 1998). The rationale for including embarrassment and shame in this analysis is the lack of research on these concepts and a trend found in a pilot of this study. Players

on a comparison team exhibited increased embarrassment later in the season, which corresponded with an increase in aggression (however, this association was not significant). Still, it seems that a relationship is possible, and without being systematically examined, embarrassment and shame are worthy of further research.

#### Brief Review of Techniques to Manage Anger and Frustration

Published attempts to manage or control emotions in sport have been sparse. Yet, performance excellence research with elite athletes has repeatedly revealed the importance of emotional control (Gould et al., 1999; Gould et al., 2002). The majority of intervention studies have focused on helping athletes manage stress, arousal, and anxiety or the use of coping skills. Fewer attempts have been made to focus on specific emotions such as anger and frustration. In clinical populations, Raymond Novaco has furthered the area of anger management. Novaco (1976) recommends the use of cognitive and relaxation skills in remaining task-oriented in anger-inducing situations. Recently, a comparison of cognitive-behavioral strategies and self-monitoring was conducted with undergraduates to manage anger (Fernandez & Beck, 2001). The treatment group received the cognitive-behavioral strategies including reappraisal, imagery, contingency contracting, and relaxation, and the control group self-monitored. The cognitive-behavioral group had a marked decline in frequency of anger episodes, anger duration, and anger intensity. The control which self-monitored only had a marginal improvement in anger intensity, hence revealing the greater effect of a cognitive-behavioral intervention. Tafrate (1995) has conducted a meta-analytic review of treatment strategies for adult anger disorders. The average effect size for the effectiveness of cognitive,



relaxation-based, skills training, and multi-component therapies were quite high (.99). Hence, Tafrate suggested that psychotherapists had many different effective strategies they could implement. Feindler (1995) recommends for children and adolescents a treatment package involving relaxation, cognitive restructuring, and behavioral skills training.

Within sport, several anger and frustration control interventions have been published. An intervention to control anger in 57 male soccer players ages 18 to 28, using anger awareness training and role-playing, was conducted. The anger awareness group received one hour lectures for five weeks. Activities included discussion on their anger experiences and attempts at controlling it. Alternative reactions were recommended by the instructor and participants were asked to log their anger incidents. The role-playing group involved weekly one-hour session for five weeks. Participants saw demonstrations of anger, dealing with anger, and then role-played anger-inducing situations in small groups. A third group served as a control and did not receive anger management training. In summary, the intervention was successful not in reducing angry feelings, but in the reduction of the incidence of angry behavior (Brunelle, Janelle, & Tennant, 1999). The authors suggested that the role-playing method was more effective because it provided an opportunity to engage in anger-reducing behaviors, and adjust it to their competitive style.

A second cognitive behavioral intervention using relaxation, cognitive restructuring, and imagery techniques was conducted with a racket sport athlete expressing concerns with anger and frustration in pressure situations. For example, the consultant used

cognitive techniques to show the athlete the irrationality of arguing with referees and worrying about mistakes and poor decisions. He then asked the athlete to perform relaxation that was eventually transferred to practices and then matches using imagery and simulation of competitive stressors. Following this intervention, the athlete significantly improved her ability to cope with pressure post-intervention (Jones, 1993). Other consultants have expressed the efficacy of many cognitive, somatic, and environmental techniques in managing emotions (Botterill, 1996; Brunelle et al., 1999; Botterill & Brown, 2002; Crocker et al., 2002; Jones, 2003). The non-comprehensive list of effective cognitive, somatic, and behavioral emotion control techniques is listed in Table 2.

Table 2

*Cognitive, Somatic, and Behavioral Techniques for Controlling Emotion*

| <b>Cognitive Techniques</b>   | <b>Somatic Techniques</b>         |
|---|-----------------------------------|
| Cognitive Restructuring – reframing, countering, disputing irrational beliefs | Meditation                        |
| Self-talk or cue words  | Progressive Relaxation            |
| Imagery   | Biofeedback                       |
| Self-instructional training/problem-solving                                   | <b>Behavioral Techniques</b>      |
| Logging/Awareness   | Role-playing                      |
| Distraction   | Simulation of effective responses |
| Perspective taking  |                                   |

Note: List of techniques taken from several sources that include Botterill, 1996; Brunelle et al., 1999; Botterill & Brown, 2002; Crocker et al., 2002; and Jones, 2003.

The techniques listed in Table 2 have provided sport psychologists with a plethora of tools to control emotion. In reality, many of these intervention techniques are combined to best intervene with the athlete. For example, Jones' (1993) multimodal intervention

included cognitive and somatic techniques to deal with irrational thinking, self-doubts, and enhance arousal and stress management. Hence, the most effective interventions are often multimodal in nature (Vealey, 1988) and provide additional techniques to assist athletes in mastering emotional control skills or transferring them to their competitive environment (Jones, 1993; Lauer et al., 2003). Emotional Inoculation (Botterill & Brown, 2002) is a great example of a multimodal program to enhance emotional preparation and readiness in athletes. This program was developed in a fashion similar to Meichenbaum's Stress Inoculation Training program. Emotional inoculation includes the following steps,

1. Education on basic emotions and functions, the importance of emotional preparation, and the role of cognitive appraisal;
2. Individualization of facilitating and debilitating emotions to develop an optimal recipe of emotions;
3. Achievement of emotional management skills listed in Table 2; and,
4. Application of skills into emotionally demanding situations.

Although evaluations of emotional control programs in sport are few, practice knowledge has revealed the efficacy of the aforementioned techniques (Botterill, 1990, 1996; Halliwell, 1990; Jones, 2003). Interventions have also been developed to eliminate the emotional response of aggression.

#### Review of Techniques to Manage Aggressive Behavior

Again, little research has focused on eliminating aggression, especially in sport. Counselors have used anger management strategies to reduce aggressive behavior in non-sport settings (DiGiuseppe, Tafrate, & Eckhardt, 1994) while only three published studies

were found in sport that focused on eliminating aggression. Silva (1982) consulted with a Division I hockey player who had a tendency to strike opponents with his stick “to make them pay.” The researcher felt that the player was responding to his own frustration of not being able to “carry out a desired action or play” (p. 450). Silva helped the hockey player restructure his view of aggression using concentration cues and imagery.

Specifically, the player was taught to say “stick to the ice” because it was associated with staying cool, staying on the ice, and to keep his stick on the ice so he could not slash. The player then imagined himself exhibiting self-control versus archrivals. After allowing the player two weeks to learn the psychological techniques, Silva reported a 57% reduction in frequency of aggressive penalties. Silva repeated this result with a basketball player by reducing fouls.

Connelly (1988) intervened with a Division I basketball player to reduce excessive fouling. Relaxing and using cue words such as ‘slow down’ and ‘easy’ were used to help the athlete stay calm in situations that normally provoked anger (e.g., when she felt a player was pushing her around). The athlete was also removed from practices or games when aggressive. The researcher reported nearly eliminating temper displays and reducing fouls. The studies by Silva (1982) and Connelly (1988) provide evidence of effective programs to reduce anger, frustration, and aggression in sport using cognitive, somatic, and behavioral techniques. An intervention to reduce aggression will be most effective, then, if a variety of techniques are used to assist the athlete.

Recently an attempt has been made to educate 28 minor ice hockey coaches (Bantam level; ages 14-15) to teach players to body check correctly (Trudel, Bernard, Boileau, &

Marcotte, 2000). In the first stage, coaches were educated on the problem of injuries, penalties, and illegal body checking, the importance of teaching clean body checks, providing materials on this topic, and introducing the technique of self-supervision. Self-supervision involves the coach gathering information on their own coaching and using it to evaluate and adjust the quality of their teaching (i.e., observing body checking during the game and reflecting on what drills to include in practice). In the second stage, coaches show a video of body checking to players and then taught them to appropriately body check. The results were not promising; the intervention did not significantly reduce aggressive penalties and had no effect on the number of injuries players suffered. The authors suggested that several players accounted for a large percentage of aggressive body checking and thus masked any possible effect of the intervention.

#### A Need Exists to Control Emotion and Aggression in Youth Ice Hockey

There is clearly a significant need to control emotions and reduce aggressive behavior in hockey. Yet, hockey players need to be physically, mentally, and emotionally tough to be successful. To be a good hockey player one needs to be strong, assertive, and play with much intensity and effort. John Davidson, hockey analyst on ABC, emphasized that to be successful “you have to play tough and play smart.” Veteran hockey coach and USA Hockey coach-in-chief in the Southeastern district, Bob McCaig, stresses to all of the teams he coaches to play the ‘3 H’s’ – hit them hard, hit them clean, and hit the net. Finally, a recent article on ESPN.com entitled ‘In playoffs, toughness is turning the other cheek’ focused on playing with intensity while highlighting the importance of avoiding aggressive behavior and penalties in the playoffs (Cox, 2003). Clearly, hockey coaches

understand the physical, tough nature of the game and instruct players to play the game 'clean.'

The problem is that the line between what constitutes fair, hard play and aggression is not always clear to youth hockey players (Morra & Smith, 1996). And, players do not necessarily have the skill set listed in Table 2 to manage their emotions and subsequent aggression. Therefore, there is a need to teach players to play the game 'tough' or intensely while playing it 'clean' (i.e., assertive, not aggressive) by learning emotional control skills in adverse situations (i.e., emotional toughness). The 'Playing Tough and Clean Hockey Program' was developed to teach players to maintain emotional control and enhance emotional toughness to reduce aggressive behavior while still playing with intensity (Lauer et al., 2003).

#### Playing Tough and Clean Hockey Program

A program was created to specifically meet the objective of reducing aggression in youth ice hockey by enhancing emotional control and emotional toughness. In its original version, the 'Playing Tough and Clean Hockey Program' is a 7-session team program on- and off-ice with a total of over 10 hours of contact time (Lauer et al., 2003). The program accounts for the tough and physical nature of the sport, while emphasizing that hockey should be played within the rules with no intent to injure or harm an opponent. Thus, the 'Playing Tough and Clean Hockey Program' is contextually bound in situations in hockey that produce anger, frustration, and embarrassment and lead to aggression.

### *Emotional Control*

Goleman (1995), in his book *Emotional Intelligence*, conceptualizes humans as having two minds that function together but not dependently: the rational and emotional minds. The rational mind involves thoughts and cognitively processing a situation, whereas the emotional mind responds to a situation intuitively without conscious thought. According to Goleman, the emotional mind is much more powerful and easily overcomes the rational mind. Understanding this notion of the emotional mind, one can begin to harness it and control their reactions. Hence, emotional control is self-regulation of the emotional mind; one experiences the emotion but controls the response via cognitive and somatic processes (e.g., perspective taking, deep breathing).

### *Emotional Toughness*

The process of reducing aggression is to be obtained by facilitating emotional toughness. Emotional toughness is a more specific form of emotional control -- the ability to respond positively to adverse or provoking situations. This concept of emotional toughness derives from Botterill's (1996) notion of emotional resiliency and Goleman's (1995) aforementioned emotional intelligence. Emotional resiliency is "the ability to accept, harness, and respond to the full spectrum of emotions" (Botterill, 1996, p. 29) that an athlete feels in competition. An emotionally tough hockey player understands the emotions he or she is feeling, how these emotions are related to the situation he or she is in, and most importantly, how to control their responses in a socially acceptable and productive manner. For example, an emotionally tough player may become angry when checked from behind, would accept this feeling as natural, and would respond by

focusing on playing the game instead of retaliating. Hence, players prepare to be emotionally tough by developing an on-ice routine to deal with their emotions.

### *The 3 R's Routine for Emotional Toughness*

The main technique developed for controlling emotions and negative thoughts on the ice was the “3 R’s” routine for emotional toughness (i.e., react, relax, refocus). The 3 R’s were adapted from Shane Murphy’s ‘Four Point Plan to Refocus’ (p. 181, 1996) with the purpose of creating a brief and powerful routine players could use on and off the ice to maintain emotional toughness. The 3 R’s discussed in this study are not the same 3 R’s Ravizza and Osborne (1991) created for Nebraska football. In Ravizza’s work with football, the 3 R’s (ready, respond, refocus) were used to help players to ‘play one-play-at-a-time,’ and stay focused on performance. In Ravizza’s work, the ready phase began in the huddle with a cue to focus, the respond phase involved stepping to the line of scrimmage and going into ‘automatic pilot,’ and the refocus phase started immediately after the play to get players to focus on the next play at hand. The 3 R’s routine for emotional toughness differs from the Nebraska 3 R’s in that it is shorter in duration, and is more applicable during a hockey shift. Thus, the 3 R’s for emotional toughness parallel Nebraska’s 3 R’s, but the steps in the routine are slightly different to allow the player to react to an adverse situation with a positive response during ongoing play, as compared to readying for an upcoming play.

The 3 R’s are respond, relax, and refocus. Originally the first ‘r’ was ‘react’, however expert program reviewers felt that react could be associated with negative emotional reactions. Therefore, ‘respond’ was substituted in its place. The steps of the routine are as



follows. First, players are trained to respond to provoking situations or “hot buttons” with a positive response. Second, players learn to relax by using a centering, or one-breath relaxation technique. Third, players are taught to refocus using a cue word, phrase, or image that gets them to focus on playing hockey and not playing aggressively. An example of the 3 R’s is for a player to respond to an aggressive hit by reacting to their frustration with an internal cue to ‘ignore it,’ a centering breath to relax, and a refocusing cue of ‘find the man’ to get back into the play. (Note: These techniques are explained in much greater detail in the ‘Playing Tough and Clean Hockey Program’ (Individual Version) handout (see Appendix B). This routine encompasses many of the components of the program and puts it into an individualized routine that a player masters and uses in competition. Hence, transfer of emotional toughness skills is emphasized. This technique is first taught off the ice in the meeting room, role-played off-ice, role-played on-ice, and then put into simulated game situations.

#### Need for the Playing Tough and Clean Hockey Program and this Study

Hockey is a tough sport that elicits much emotion in its participants; unfortunately with this emotion comes the possibility of aggression. When players are aggressive many negative consequences can occur including greater incidences of injury (Widmeyer & McGuire, 1993), learning of aggression (Smith 1979; 1983), and off-ice incidents of spectator and parent aggression. Smith and colleagues (2000) have emphasized the need for a program to teach players emotional control. These researchers also recognize the need for evaluation of such a program. This study fulfills both of these very important needs.

### Purposes

The primary purpose of this study was to conduct the 'Playing Tough and Clean Hockey Program' with aggressive ice hockey players and examine its influence on the emotional control, emotional toughness, and aggressive behavior of participants. The secondary purpose of this study was to conduct a formative or process evaluation (e.g., examine program implementation, player learning and use of the program and skills) of the program.

### Hypotheses

The first hypothesis was that players participating in the program will feel increased emotional control and emotional toughness following implementation of the program. The second hypothesis was that players will exhibit fewer acts of aggression following the program's implementation.

## CHAPTER II

### METHOD

#### The Investigator

In an interpretive paradigm the researcher is considered a part of the research process and thus influences any information learned from participants (Henderson, 1991).

Although the current study in some ways is coming from more of a post-positivistic paradigm a reflexive statement is warranted. Hence, a researcher must divulge his or her assumptions and biases because it is the lens in which the world is viewed. The knower cannot be separated from the known (Lincoln & Guba, 2000) and therefore the investigator must clarify his or her training, assumptions, and biases.

The investigator was a hockey player, coach, and hockey director who believes in the physical nature of hockey as well as playing with sportsmanship, integrity. He was a physical player who learned to control his emotions and reduce aggression through sport psychology training. The investigator has studied aggression in hockey for over nine years and takes the theoretical perspective of social learning theory (Bandura, 1973) and the revised frustration-aggression hypothesis (Berkowitz, 1989 & 1973). Although aggressive behavior has many antecedents including biological and physiological, social learning has received much support relative to aggressive behavior in hockey (Vaz, 1982; Smith, 1983). The investigator has argued that “hockey players are not ‘animals’ prone to be aggressive, but pupils of a system teaching that aggression is effective” (Lauer, 1998,

p. 92). Thus, it is assumed in this program that players learned aggressive behaviors and can unlearn or learn new prosocial responses.

### Participants

Four youth ice hockey players identified by coaches, parents, and league coordinators as tough, physical players that were aggressive at times participated in the program. Players ranged in age from 12 to 14 years, similar to the initial assessment of the program which was conducted with 13 and 14 year old hockey players. This age group was considered for study because players begin to exhibit aggressive behavior at this age (Lauer et al., 2003). It was thought that identifying these players as they begin to exhibit aggressive behavior on the ice would be a particularly effective time to introduce the intervention. All four players participated in the nine program sessions. Player demographics are described in greater detail in the results section.

### Design

A single subject, multiple baseline AB (baseline, program) design was used to examine the effects of the program on the emotional control, emotional toughness, and aggression of each of the four players (see Figure 3 on page 38). A reversal design was not selected recognizing that players would most likely continue to use the skills taught in the program following contact with the instructor (Hrycaiko & Martin, 1996). Hence, removing the program would not remove the educational effects.

The goal was to obtain a total of 24 games per participant (i.e., video footage of games for each participant). In the author's opinion 16 games would provide enough data to reliably assess the fluctuating dependent variable of aggressive acts. Ultimately, 20

game tapes were obtained for Participant 1 (40.7% of P1's games) and 22 games for Participants 2, 3, and 4 (48.9% of their games). Nearly half of the games occurred in each phase of the design (A – baseline, B – program) to enable an accurate assessment of behavior. Figure 3 depicts the study design.

Figure 3

*Study Design*

| Participant | A – Baseline Period | B – Program Period |
|-------------|---------------------|--------------------|
| 1           | Games 1-8           | Games 9-20         |
| 2           | Games 1-12          | Games 13-22        |
| 3           | Games 1-12          | Games 13-22        |
| 4           | Games 1-12          | Games 13-22        |

Note: Due to time restrictions the baseline was not staggered for Participants 2-4.

A multiple baseline design with staggered interventions was selected because it reveals the internal and external validity of the program across participants (Hrycaiko & Martin, 1996). With this design each participant is concurrently observed during baseline, and then the first participant receives the program whereas the other participants stay at baseline. If behavior change occurs for Participant 1 only during the program time period, one can begin to infer that the program created the change. After several games have elapsed the program is then sequentially given to other participants. Once this change in behavior occurs in subsequent program introductions external validity across participants

is strengthened (Hrycaiko & Martin, 1996). As can be seen in Figure 3, in the present study Participant 1 was staggered from Participants 2-4. Participants 2-4 were not staggered by games due to time constraints. Only Participant 1 could be staggered relative to games because Participants 2-4 had an unforeseen long break over the holidays (approximately 3 weeks) where they were not playing games and to finish the program by the end of the season the investigator could not wait for more games.

It was also important to establish baseline stability in this study of aggressive behavior. This establishes a pattern within the data. The intention was to stabilize the dependent variable of aggressive actions prior to beginning the program phase of the study. Stability was operationalized as aggressive actions not fluctuating more than two behaviors above or below that player's mean aggressive acts for the last three games of the baseline phase. The original plan called for the program being instituted only when this condition was met. Unfortunately, due to time constraints, the time-demanding task of recording and tallying aggressive acts, and uncontrollable factors such as the aggressiveness of the opponent, the investigator was unable to stabilize the baseline data for each participant to the degree originally planned.

#### Data Sources

Multiple data sources relating to the emotion and aggression of participants and the effectiveness of the program were collected during this study. These sources were selected to best examine the purposes and hypotheses of this study (see Table 3, on pages 41-42). Institutional review board approval was obtained prior to data collection.

### *Post-Game Self-Report Emotion and Feeling State Log*

To examine the first hypothesis that players will feel increased emotional control due to the program, players completed a post-game self-report ‘emotion and feeling state’ log following each game throughout the season (i.e., baseline and program periods). It was expected that the frequency of self-reported negative emotion and aggressive feeling states would decrease from baseline levels once the program was implemented. Two versions of the log exist because additional questions on the use of emotional control strategies are included in the treatment phase of the study (see Appendices C1 and C2). This log was developed for the previous grant study conducted by the author and measures individual performance, emotions and feeling states, aggressive feelings, and use of program skills and their effectiveness (Lauer et al., 2003). Questions were derived from several sources. First, the research team of graduate students from the previous grant study met and discussed the important experiences from a hockey game that should be measured (Lauer et al., 2003). Second, the primary author reviewed the literature on emotion and feeling states. The Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988) provided a set of 20 emotions and affective states to consider for the final log. Seventeen items (three items were eliminated because they were deemed either irrelevant or too complex), were piloted with adolescents. Next, this new list of 17 emotions and feeling states were examined by several teenagers to evaluate its appropriateness for our participants. Emotions and feeling states were then added and removed based on their comments until a short list of emotions and feeling states was left (i.e., angry, frustrated, upset, felt like attacking opponents, embarrassed, excited, happy,

Table 3

*Data Source Matrix*

| <b>Purpose</b>  | <b>Hypothesis</b>  | <b>Data Source</b>                       | <b>Dependent Variable(s)</b>   | <b>Analysis</b>  |
|---|--|--|--|--|
| 1: Examine influence of program on emotional control and toughness, and aggression. | 1: Increased emotional control and toughness following program implementation. | Post-game self-report log                | Individual Performance<br>Emotion<br>Aggressive Feelings<br>Self-perception of aggression<br>Emotional Toughness<br>Program Skills effectiveness | Descriptive statistics<br>Intercorrelations<br>Graph selected emotions across the season   |
|   |  | Program test<br>Program evaluation       | Learning of program content<br>Effectiveness of program  | Descriptive statistics<br>Descriptive statistics   |
|   | 2: Reduced aggression following program implementation.                        | Video of games/code aggressive behaviors | Frequency of aggressive acts   | Independent, consensual process<br>Graph acts of aggression by game and period across season<br>Visual inspection criteria (Hrycaiko and Martin, 1996), PZD, PND, MBLR effect sizes (Campbell, 2004) |
|   |  | Program test<br>Program evaluation       | Learning of program content<br>Effectiveness of program  | Descriptive statistics<br>Descriptive statistics   |



| <b>Purpose</b>  | <b>Hypothesis</b> | <b>Data Source</b>                  | <b>Dependent Variable(s)</b> | <b>Analysis</b>  |
|---|-------------------|-------------------------------------|------------------------------|--|
| 2. Formative (process) evaluation of the effectiveness of the program | Not applicable    | Review of program by hockey experts | Not Applicable               | Changes made from suggestions and recommendations to increase validity |
|   |                   | Pre-program interview               | Not Applicable               | Check tape for important themes  |
|   |                   | Session notes                       | Not Applicable               |  |
|   |                   | Procedural reliability assessment   | Not Applicable               | Reliability between proposed and actual implementation                 |
|   |                   | Participant feedback                | Not Applicable               |  |
|   |                   | Program evaluation                  | Effectiveness of program     | Descriptive statistics   |
|   |                   | Program test                        | Learning of program content  | Descriptive statistics   |

and motivated). Members of the research team also provided their suggestions in developing the final list. Hence, the PANAS provided a starting point, but the final version of the log is much different. Therefore, this study does not use the PANAS measure.

The next step involved using questions from the Aggression Questionnaire developed by Buss and Perry (1992). Six statements reflecting aggressive feelings that are closely related to anger and frustration were included in the post-game self-report log (see Appendices C1 and C2). These items were also piloted with teenagers for clarity and comprehension. All six statements made sense to our pilot sample. Finally, questions were developed to measure a player's ability to use the techniques (i.e., 3 R's routine, controlled breathing, and centering) taught in the program.

During the initial grant study of the program for the USA Hockey Foundation, two members of the research team met with players and described the post-game self-report log and clarified the meaning of all items. Players were free to ask questions. There was little confusion amongst participants as to the meaning of the items.

The post-game self-report log has been modified from its original version to include measures of aggressive behavior and related emotions and emotional toughness. The added questions measure players' emotions and feelings at the time they were aggressive. Although retrospective in nature, asking players to recall aggressive incidences and related emotions and feelings should provide a more valid and reliable measure of distinct emotions and feelings.

### *Game Video*

The second data source involved analysis of game video for aggressive acts. All games were videotaped focusing on filming the participant in the study, or when multiple study participants were on the ice at the same time, a wider angle of the ice was taken so all participants would be included. Behaviors of participants were then reviewed and coded on to a video-coding sheet created in the USA Hockey Foundation grant study (Lauer et al., 2003). The video coding sheet is located in Appendix D. Two independent coders observing game tapes tallied aggressive behaviors, and consensus was achieved on every possible instance of aggression. Video analysis was conducted by two experts in hockey. Both had experiences as players, coaches, hockey directors, and one member had experience as an official. Reliability between the two coders was not assessed because of the consensual process.

Aggressive behaviors in hockey have been operationalized as specific penalties recognized as having harmful intent (Widmeyer & Birch, 1984), and from an ice hockey taxonomy that was created from past indices of aggressive behavior in hockey and a check with experts (Kirker, et al., 2000). The investigators then classified behaviors into three categories, (a) physical or nonphysical, (b) assertive or aggressive, and (c) a rating of severity of the act from assertive to violent. Each behavior was operationally defined by first reviewing literature on hockey aggression and compiling a list of aggressive behaviors, and second, asking experts to state aggressive behaviors in hockey to add to the list. The taxonomy and consensual process was used in the grant study by the author and a second coder and was found to be effective (Lauer et al., 2003). The severity index

was not used in the current study because behaviors were categorized as major or minor aggression based on the review of the investigator.

### *Program Test*

The third data source was a program test to verify player learning of the program. This program test was developed for the initial grant study (Lauer et al., 2003) and was adapted to meet the changing content of this individualized program (see Appendix E). The program test was developed with the purpose of assessing the degree participants are learning program content. Questions were developed based on the components of the Playing Tough and Clean Hockey Program. Members of the research team met and developed questions. Completion of the program test in the grant study revealed one confusing question, which was consequently eliminated from the analysis (Lauer et. al, 2003) and this version of the program test. Revisions were made to the test based on new concepts and skills added. The test is now 20 items including true-false, multiple choice, and open-ended questions.

### *Playing Tough and Clean Hockey Program Evaluation*

The fourth data source was a program evaluation completed by players. This program evaluation was also created for the USA Hockey Foundation grant evaluation of the Playing Tough and Clean Hockey Program and is located in Appendix F. The research team met several times to develop questions that would provide a measure of player perceptions of the program. The program evaluation was developed to obtain feedback on the effectiveness, ease of learning, utility of skills, clarity of presentations, and reasons

why participants missed sessions. Two questions have been added to examine the overall quality of the program and instruction.

#### *Formative Evaluation of the Playing Tough and Clean Hockey Program*

To conduct a formative evaluation of the Playing Tough and Clean Hockey Program, several sources of information were gathered. First, the program activities and exercises were reviewed with several hockey experts to obtain face validity for the program and assess the ability of the program to achieve its stated objectives. Second, session notes were recorded immediately following each session detailing the process of implementing the program and any factors that may have influenced it. Third, a pre-program interview was conducted to get to know the participants. The interview consisted of questions about participants' background, history in hockey, views of aggression, and values (see Interview Guide, Appendix G). This pre-program interview was essential to conducting a successful intervention as the investigator learned participants' past reinforcement of aggression, and a deeper understanding of the participant's perspective and appraisals of different aggression-provoking situations.

Fourth, a procedural reliability assessment provided a check on the integrity of the program's implementation. The procedural reliability assessment involved listing program components, topics, activities, and skills to be covered in the sessions. When a specific aspect of the program was completed in the appropriate session it was checked by an assistant or the lead instructor when no assistant was available. Hence, the assessment provided a percentage of the proposed material that was actually covered. In this way the researcher can suggest how reliably he or she executed the program.

Fifth, ongoing discussions with participants during the program provided feedback on the efficacy of the program. This feedback was logged and used for future revising of the program. Sixth, the program evaluation and program test previously noted provided further information on the effectiveness of the program (see Appendices F and E, respectively).

## Procedures

### *Participant Recruitment*

Recruitment of players began by contacting hockey administrators in Lansing, Michigan's two youth hockey travel organizations. The premise of the program was discussed with the two administrators. One administrator distributed the Playing Tough and Clean Hockey brochure (see Appendix H1), email description of the program (see Appendix H2), and biography of the program leader to coaches of the organization. The coaches provided an expert opinion on which players met the selection criteria of players who play an intense and tough style of hockey, and also take penalties for roughing, retaliation, or being involved "in the rough stuff." Coaches then approached the parents of the players prior to setting up a meeting with the program leader. Meetings were then conducted at a local rink with parents to inform them of the Playing Tough and Clean Hockey Program. A persuasive style was used including the tact that the player was identified not because he has a problem, but plays a tough and intense game while taking some aggressive penalties. Thus, the program was pitched as a performance enhancement consultation with an emphasis on the idea that a tough and clean hockey player is a great player (Note: The investigator believes this program enhances performance as well as

one's ability to play a physical and clean style of hockey). The program leader then fielded questions from parents. During these meetings the two main player selection criteria of being a tough and intense player that takes penalties and the parents and player having a commitment to complete the program was communicated explicitly. Parents then decided based on these criteria and their desire and their child's desire to participate. In addition, the program leader observed a game of potential participants. One player was not accepted in the study because he did not play a tough, intense or a dirty, aggressive game. This was verified with the coach who felt this player was not a prime candidate for the program.

For those players that decided to participate and were accepted, an informed consent meeting was held with at least one of the parents in attendance. The informed consent was read, rights of the participant were clarified, and consent was obtained. The program leader also showed the player how to complete the post-game report and defined terms specific to the program (i.e., tough and clean hockey, dirty and aggressive hockey, and emotional toughness). A copy of the signed consent forms was given to the parent at the next meeting. The recruitment process occurred from August to the beginning of November.

A second meeting with each participant was held to follow-up on completion of post-game reports, set up the schedule for the program, and conduct the pre-program interview. The meeting also served the purpose of discussing what it means to be committed to the program. A commitment contract was discussed with the expectations of the lead instructor and the participant clearly outlined. This commitment contract can

be found in the Playing Tough and Clean Program handbook (see Appendix B). This meeting was held approximately one week prior to the beginning of the program.

#### *Video Procedures*

The majority of participant's games were recorded on video by members of the research team and two parents who had expertise with video equipment. One digital camcorder was used to capture the game. Multiple camera angles were desired, but could not be achieved without a greater number of video assistants. Video persons were informed to stand in the bleachers at the highest position and select a position where they could see the whole ice surface and the corners of the boards, while also being able to see jersey numbers clearly at the farthest point from their position. All tapes were labeled immediately following the game with the player's initials, date, and opponent. Video people were informed to follow a series of steps on the day that they were recording.

#### *Pre-Program Interview Procedures*

Prior to the program, the author interviewed each participant to gain an understanding of their background, history in hockey, views of aggression, and values. The interview guide is located in Appendix G. The interview was audio recorded by a handheld recorder. Audiotapes were not transcribed because the author felt that his notes were detailed enough to meet the purpose of preparing for the program. This pre-program interview was normally conducted one to two weeks prior to the program's implementation to allow time to review interview notes and list important themes.



### *Playing Tough and Clean Hockey Program Components*

Due to the success of previous stress management and cognitive restructuring interventions with aggressive athletes (Connelly, 1988; Silva, 1982), and the review on emotion and aggression management, the program taught players to control emotions via breathing and relaxation skills, restructuring how one views aggression and thoughts about certain provoking situations, and refocusing cue words (see Appendix B for the Program handbook). The list of skills and topics addressed in the program include:

- Empathy and compassion for opponents,
- Education on what constitutes aggressive and assertive behaviors,
- Education on emotions and developing emotional toughness,
- Controlled breathing,
- Centering (on-ice, one breath relaxation technique),
- Thought stopping,
- Refocusing cues, and,
- An on-ice 3 R's (respond, relax, refocus) routine.

### *Revising the Playing Tough and Clean Hockey Program into an Individual Program*

Initially, the program was adjusted so it could be implemented in individual sessions over a 12-week period. However, due to time constraints created by the investigator moving to a new region as well as Michigan starting and ending the season earlier than most states, the program was modified to nine sessions. In cutting the program down by three sessions, no original content was eliminated. Sessions were combined and one

session dedicated to video analysis and 3 R's practice was removed. It was removed based on the fact that three other sessions included video and 3 R's practice.

The rationale for the change from the original program is that individual interventions require different types of exercises that do not involve groups. Moreover, from the initial study (Lauer et al., 2003) it was felt that more 1-on-1 contact and practice of skills would enhance the effectiveness of the program. Specifically, some sessions were shortened and group exercises adjusted to work with an individual. More time was allotted for discussion, player feedback, role-playing, and reflection of using the 3 R's in practices and games. In addition, more time was spent on learning skills such as centering, controlled breathing, and refocusing.

This program furthers previous interventions in that it individualizes to the player's specific strengths and weaknesses, is hockey-specific, and involves multiple techniques that are mastered and transferred to aggression-provoking situations. In the initial development and evaluation of the program using many of the same data sources, a treatment-comparison group/team intervention design showed that individual members of the program team that attended at least 5 of 7 sessions committed 1.5 fewer aggressive acts than teammates not attending (Lauer et al., 2003). The program, however, did not significantly reduce aggression at the team level of analysis and it was felt that individual case studies would be a more appropriate means of evaluating its effectiveness.

#### *Activities and Exercises to Learn Program Components*

In any intervention, success was directly influenced by the types of activities and exercises included and the connection to program skills or components. Understanding

the literature on emotion and aggression control, the program developers created a matrix of program exercises to meet the components listed above (see Appendix I). This program was multimodal in nature; cognitive, somatic, and behavioral techniques were implemented with the purposes of the program in mind. From inspecting the table, one recognizes the inclusion of role-plays and awareness exercises due to their successful implementation in earlier interventions (Brunelle et al., 1999). Finally, material and skills were taught in a progressive manner so that foundational values and perspectives were analyzed first, then an understanding of emotions was established, and finally techniques to control emotion and aggression were mastered. Following is a brief review of the program exercises. These exercises are in the program handbook which is located in Appendix B.

The rationale for this set of skills and topics in a program was based on initially breaking through the barrier that aggression was ‘cool.’ Hence, the ideas of empathy and compassion for opponents were discussed. Second, an exercise was implemented to highlight the differences between ‘dirty and aggressive’ and ‘tough and clean’ behaviors. The terms ‘dirty and aggressive’ and ‘tough and clean’ are used in this program due to the double meaning of aggression in sport and psychology. Moreover, Nash and Lerner (1981) suggested that players would make a distinction more easily based on more descriptive terms such as ‘dirty’ and ‘clean.’ These terms are defined to players and consensus was reached on what behaviors constituted the two categories.

Next, an exercise was implemented to ascertain the positive and negative consequences of aggression in hockey. Players were rewarded for developing as many

consequences (e.g., injuries, penalties, further aggression) as possible. Each of the consequences was discussed, and participants were asked “if it pays to be dirty and aggressive.”

In Session 2, players were made aware of the role emotions play in hockey and how emotions could lead to aggressive behavior. It was emphasized that players have control over the way they respond to emotions, and that each emotion has some evolutionary purpose that a player can use to their advantage (e.g., anger provides a boost in energy). Thus, the concept of emotional toughness and control was introduced. In Session 3 a 4-step plan was outlined to achieve emotional toughness. These 4 steps were:

1. React positively to your emotions, don't bottle them up.
2. Identify your hot buttons (i.e., on-ice situations that always elicit very negative and intense emotions from you).
3. Rewire your hot buttons – developing a new response to the hot button.
4. Develop a plan for on-ice emotional toughness.

The 3 R's of respond, relax, refocus were introduced, and players identified their “hot buttons” or situations where they always become negative and respond aggressively. Finally, players refuted and replaced their aggressive thoughts with the goal of understanding the underlying cognitions that increase the propensity for aggressive behavior in hockey. From this exercise on “stinking thinking”, players developed the first step of the 3 R's (i.e., respond).

In Session 4, players completed their personal 3 R's routine with the program leader providing many examples and demonstrations of the 3 R's. Players learned the skills of

centering and developed a refocusing cue based on how they want to feel, think, and act in their “hot button” situation.

In Sessions 4, 5 and 6, players were introduced to techniques to manage their stress and arousal. Stress was targeted because of its reciprocal relationship with emotion and thoughts. These techniques included centering and visualization which then progressed to imagery in Session 6. The goal for teaching these skills was for the players to integrate these skills in to their personal 3 R’s routine. During this time, players practiced and tried their 3 R’s routine in training sessions as well as at home through visualization and “walk-throughs.” This practice was discussed during the group meetings. Players also worked with the program leader on understanding their optimal emotional energy level and managing their emotions outside of hockey.

In Sessions 6, 7, 8, and 9 players practiced their skills and used them in games. Logs were completed and discussed in the meetings relative to the effectiveness of the skills in game situations. Video of games were reviewed with the purpose of helping players see their progress, or lack thereof, and how improvement could be made. In addition, game videos allowed the program leader to clearly differentiate the differences between dirty and aggressive and tough and clean behaviors in the context of that participant’s behavioral repertoire and games.

Session 7 also included a discussion about self-regulation and becoming your own “teacher.” Self-regulation is discussed in greater detail later in this section. Finally, Session 8 involved discussions about how to use the 3 R’s in life. Players were asked to set goals to use these skills outside of the rink. Session 9, the final session, served as a

summary of what the player had achieved and players were challenged to set goals to continue to play tough and clean hockey.

### *Program Implementation Procedures*

Upon the start of the program, the investigator met one-on-one with players for nine meetings (generally occurring over nine weeks). Post-game self-report forms were collected at this time. Although it was originally proposed that program start dates would be randomized, this was not implemented due to restrictive participant schedules. Program start dates were clustered around the mid-point of the hockey season in this multiple baseline design. This allowed a comparison of the two periods and assessment of the degree of change in aggressive behavior.

Individual meetings were held with participants once or twice per week once the baseline period ended. The meetings were at the author's university office because of his experience in the initial study of the Playing Tough and Clean Hockey Program (e.g., many distractions in a semi-private room, public rink facility). The goal was to use a space that was quiet, private, and had the equipment needed for video review.

In the first meeting, the participant received the Playing Tough and Clean Hockey Program (Individual) handbook and was asked to bring it to all meetings. The program was implemented as described in the Playing Tough and Clean Hockey Program description in Chapter 1. An instructor guide was adapted from the group version of this program used in the pilot study (see Appendix J). As the program was being implemented, the consistency of the implementation with the proposed program was regulated using a procedural reliability assessment (Hrycaiko & Martin, 1996). The

assessment checks the integrity of the program and allowed the investigator to verify that the program was implemented as proposed. A procedural reliability assessment has been created that corresponds to each session of the program (see a sample page in Appendix K). An assistant or the program leader checked topics, skills, and activities covered completely in the session. Procedures were not checked if they are not fully implemented as detailed by the instructor guide.

Sessions began with the program leader conversing with the participant about hockey and non-hockey topics. Then, the player was asked to provide an update on their practice and game performances, as well as their ability to use what they learned in the program. Post-game reports were collected at this time and reviewed with the participant for any noticeably important scores or issues. Next, the program leader briefly mentioned the purposes for the session. Players were then asked to use controlled breathing to focus their mind on the day's topics. This focusing activity was implemented intermittently following the learning of the skill (in sessions 3, 4, or 5). This technique evolved from the reflections of the program leader that he and the participant were not as focused as they needed to be at times. Following the focusing activity previous sessions were reviewed with the participant, generally by asking the participant to define or explain particular concepts (e.g., "What does it mean to play tough and clean hockey?"). At the completion of the review the session started.

At the end of the program (session nine), a program test and evaluation were implemented to check participants' comprehension of the program concepts and gain feedback on the program's effectiveness. Participants were given a gift certificate for

their commitment to the program and informed of the other potential benefits they would receive in the near future (i.e., executive summary of project, access to all game videos, and a copy of program leader's notes). It was emphasized that players could continue to meet with the program leader as a complimentary follow-up to the program or on other performance or personal enhancement issues. Finally, the participants and their parents were informed of the possibility of further assistance next season, as well as a follow-up to this study to assess if participants were maintaining skills use.

*Transferring to game situations.* Emotional control techniques were integrated into the aforementioned on-ice 3 R's emotional toughness routine to effectively transfer skills in to game situations. To transfer these skills, players were asked to use imagery of effectively using their 3 R's in a variety of 'hot button' situations. Moreover, players were asked to discuss any anticipated roadblocks to mastering and using their 3 R's. The instructor and player then determined how they would overcome these roadblocks. Additionally, in Sessions 6 and 7, players attempted their 3 R's on-ice in simulated game situations. Practice of the 3 R's was logged and discussed in these sessions. Also, in Session 7 players were invited to reflect on what they had learned and how they could use these new skills in other life situations. Finally, players were directed to set goals relative to continued use of their 3 R's routine, staying emotionally tough, and avoiding dirty and aggressive play.

In Sessions 8 and 9, participants were asked to think about how they could use their skills, especially the 3 R's, in life situations. Participants talked about situations that were



hot buttons in their life and how they might use their skills. Then, they set goals relative to being emotionally tough in their life hot button situations.

*Self-regulation of program skills.* Self-regulation is considered a hallmark of high achievers, and has been defined as an ability to pursue one's goals by managing thoughts, feelings, and behaviors (Gould & Chung, 2004). The participant's ability to self-regulate and self-monitor his practice and use of the program skills and perspectives was very important in this study. Hence, a number of strategies were implemented to assist the participant in becoming his own 'coach or teacher.' This is the goal of educational sport psychology consultations (Weinberg & Gould, 2003) and served as a vehicle for the participant to take over the lead from the investigator.

First, participants were asked to practice their skills at home, in practices, and in games and take notes in a log. To enhance their ability to reflect on their practice, the program leader would first describe an activity or skill, demonstrate it, and have the participant do it, provide feedback, and also have the participant fill out a log while the investigator assisted them in their reflection. The participant was not only shown what to do, but how to do it and how to evaluate it.

The second strategy for helping participants self-regulate was to provide pre-game emails that served as reminders to practice skills, or use them in the game, and motivational slogans. The goal of these emails was to keep playing tough and clean hockey at the forefront of the player's thinking as he prepared for games.

A third and very successful strategy, according to participants, was the review of their games on video. Critical moments were highlighted by the leader prior to the session and

then reviewed with the participant. The participant was asked to try and remember what happened in that situation, including their thoughts and feelings, and if they used the program skills. These conversations provided personal examples of their progress in the program and revealed their ability to self-monitor and self-regulate their emotional toughness skills. Participants also picked out what they thought were critical moments in the game as well.

A fourth, and also very successful strategy, was to have players role play or do “walk-throughs” of their hot button situations (e.g., check to the head, being tripped with no call) and using their 3 R’s. The emphasis was on reliving the experience as best as they could to make the role play realistic. This meant conjuring the feelings and thoughts that occurred at that time. For example, one player talked about using his 3 R’s after he returned to the bench, so in the role play he walked over to the wall and acted as if he was sitting down on the bench and dwelling on the play. We both chuckled about his realistic walk through, and found it beneficial at the same time!

To be specific about the role plays, we first carried out a role play of a hot button (i.e., a situation that always leads to negative emotions and reactions) and how the player reacted in the past, and then changed the response by using the 3 R’s. Behavioral strategies were discussed and practiced such as “stick down and use your body position when marking your man in front of the net”, and “skate away from a player that is provoking you.” These behavioral methods provided the little tips to help players respond positively. Upon watching their games on video (beginning in Session 6), the program leader and participant selected one or two critical situations where the player may not

have responded with their 3 R's and once again walked through how they did it in the game, and then how they would do it using the 3 R's next time. The video review not only allowed us to work on situations that the player was struggling with in particular, but provided the opportunity to reinforce tough and clean plays on the ice. Thus, the video review enabled the players to differentiate between dirty and aggressive and tough and clean hockey plays in their own behavioral repertoire.

A fifth method to enhance the self-regulatory processes of the participants was the use of imagery as a 3 R's training tool. Imagery was framed as an alternative method for practicing and gaining confidence in the 3 R's, because players were not often confronted with a large number of opportunities to practice their 3 R's in reality. After learning the 3 R's and controlled breathing, participants were instructed to visualize their 3 R's. After practicing visualization for two weeks, the program leader then progressed to imagery and had the participants imagine their hot buttons and then responding with their 3 R's, and ultimately playing confident, tough and clean hockey. The use of "feeling words and phrases" was important. Players were instructed to imagine how they wanted to feel and think in those hot button situations, as well as how they wanted to behave. Although imagery has been discussed as a method of learning new skills (Vealey & Greenleaf, 2001), not a great deal of application has been made in this fashion. In fact, one participant said about the imagery, "it (imagery) is really important to using the 3 R's." This participant felt that the imagery allowed the 3 R's to happen naturally and automatically in game situations. Without the imagery, he was not sure if this transfer to game situations would have occurred.

The sixth strategy for developing self-regulation and self-monitoring in the participants was to provide plenty of positive and specific feedback on their skills practice and game performance of skills. The investigator attempted to continuously repeat “key” concepts such as “maintain emotional toughness in your hot button situation” and “have an immediate positive response to your negative emotions.” This constant repetition and feedback allowed participants to capture what were the most important themes in the program and keep them at the forefront of their thoughts.

The seventh strategy for enhancing self-regulatory processes was repetition in skills practice. Players were challenged to continuously use their 3 R’s in walk-throughs and in practice and games. All program skills except for visualization (because the program curriculum progresses to imagery) were practiced for multiple weeks and were continued throughout the program once learned.

The eighth strategy was goal setting. Participants were asked to set specific goals relative to maintaining emotional toughness and playing tough and clean hockey. They then committed to these goals by signing their name to it. Goal strategies were also discussed, as well as obstacles to goal attainment. The program leader then followed-up with the participants to see how they well they were doing in achieving these goals. The program ended with a discussion about the goals the participant had for continuing to play tough and clean hockey in the future. Goal achievement strategies were also discussed to assist the player in recognizing how an athlete pursues his or her goals.

The ninth and final strategy was to hold a problem-solving discussion with participants. Participants were asked what they would do if they developed a new “hot

button”, began to retaliate more often next season, or were unable to control their anger during intense playoff games. These problem-solving discussions revealed how well participants were able to generate solutions, thus allowing inference of how well they understood the program and were able to self-regulate.

In sum, the program involved nine strategies for enhancing the self-regulatory processes of participants. Some were mental skills (i.e., imagery, goal-setting), others were techniques for enhancing self-awareness and self-monitoring (i.e., video review, logging, problem-solving discussions), and finally others involved simulation or practice of skills (i.e., role plays). Participants were provided a great deal of guidance on how regulate their skills practice. Then, they were forced to self-regulate their own behavior throughout the time until the next session. These self-regulatory strategies allowed players to become their own “coaches” and make the possibility of players maintaining their emotional toughness skills more likely.

## Data Analysis

### *Purpose 1*

*Hypothesis 1.* The first purpose of this study was to examine the influence of the Playing Tough and Clean Hockey Program on participants’ emotional control, emotional toughness, and aggression. Post-game self-report emotion and feeling state logs, program tests, and program evaluations were collected and descriptive statistics were performed. Hypothesis 1, the program will enhance players’ emotional control and emotional toughness; was also examined by graphing selected emotions and aggressive feelings across games and the season. In addition, intercorrelations of all variables on the post-

game self-report log were analyzed for associations between emotions, aggressive feelings, emotional toughness, perception of aggression, and performance.

*Hypothesis 2.* Hypothesis 2, the program will lead to a reduction of aggressive behavior, was assessed using game video coding of aggressive behaviors. A frequency of aggressive behavior was obtained by tallying them from the game tapes. These frequencies were graphed across the season to assess change due to the program. Hrycaiko and Martin's (1996) five criteria for visually inspecting data were used to analyze changes in aggressive behavior. These five criteria are:

1. Baseline aggression is stable or in a direction opposite to that predicted for the program,
2. The effect is replicated within and across participants,
3. Fewer overlapping data points exist between the baseline and program periods,
4. Effect occurs temporally close to the beginning of the program, and,
5. A larger effect size exists in the program period as compared to the baseline.

Specifically, the aggressive acts of each participant were graphed separately and then visually inspected.

Because of the complexity of aggressive behavior, and its trend to fluctuate greatly within the same person dependent upon mood, rival, time of season, score of the game, performance, and a myriad of other antecedents, a more fine-grained analysis was necessary. In short, an inspection of critical moments when players needed to use the skills taught in the program were labeled 'critical incidents.' Critical incidents are times when the participant was provoked by an opponent (i.e., opponent commits a dirty and

aggressive act on the participant) opening the ‘opportunity’ for the participant to play aggressively. Critical incidents were tallied off of game videos and coded following the same method as for aggression using a two-person consensus process. Critical incidents were calculated as a ratio of the number of retaliations compared to the number of critical incidents. Then a percentage of retaliation was calculated for each game. These percentages were subsequently graphed and inspected using the criteria listed above.

Additional fine-grained analysis involved counting minor versus major aggressive acts similar to what has been documented and categorized in previous literature (Audette, Trudel, & Bernard, 1993; Gilbert & Trudel, 2000; Smith et al., 2000). A significant difference between the categorization of aggressive behaviors in this study and the previous literature, however, is that it does not rely on penalties called by officials. Therefore, the categorization is based on the interpretation of all behaviors exhibited in a game and is not based on the official’s decision on a minor versus major penalty (see Figure 4). Hence, all elbowing, cross-checking, checking from behind, roughing, etc. was considered major. Examining major versus minor aggressive acts provides one an understanding of the degree of aggressive being exhibited. Not all aggressive behaviors are equal; a major check from behind is far more aggressive than a slash to the shin pads because the intention was most likely more devious, the possibility for harm was enhanced, and this behavior is viewed as less legitimate by the hockey community (Smith, 1983). These numbers were also graphed for each participant by phase of the study.

Figure 4

*Categorization of Minor versus Major Aggressive Acts*

| Minor         | Major                |
|---------------|----------------------|
| High-Sticking | Boarding             |
| Pushing       | Checking from Behind |
| Grabbing      | Butt-Ending          |
| Slashing      | Cross-Checking       |
| Clipping      | Fighting             |
|               | Roughing             |
|               | Kneeing              |
|               | Elbowing             |
|               | Spearing             |
|               | Charging             |

Because of the concerns that visual inspection is not reliable (although Hrycaiko & Martin (1996) make a strong case that visual inspection is reliable if done appropriately), three single-subject design effect sizes were calculated as reviewed in Campbell (2004). Campbell recommends using multiple indices of behavior. The average reduction of behavior from the baseline period known as mean baseline reduction (MBLR), the percentage of nonoverlapping data (PND), and the percentage of zero data (PZD) were calculated.

Mean baseline reduction (MBLR) provides a quantitative measure of how much change occurred following treatment. The MBLR statistic is calculated by subtracting the treatment mean from the baseline mean, dividing by the baseline mean, and multiplying by 100. For example, Eric has a mean of five aggressive acts per game in baseline, and three mean aggressive acts per game during the intervention. The calculation would then be:



$$(5 - 3)/5 = .40 \times 100 = 40\% \text{ behavior change}$$

In this example, Eric exhibited 40% less aggressive behavior during the intervention.

Hence, the MBLR provides a mean rating and also a percentage of reduction. Lundervold and Bourland (1988) used the MBLR to assess the effectiveness of treatments of aggression, self-injury, and property destruction. These authors recommend that you have at least five observations in each phase of a study to properly use this technique.

The percentage of nonoverlapping data statistic (PND) is a measure of the frequency that treatment data points do not overlap with the highest or lowest baseline data point (in this study it would be with the lowest baseline point), and is reported as a percentage. Once the lowest baseline point is obtained, the coder counts the number of treatment observations that exceed or equal the lowest baseline point (i.e., the lower number of observations the better). This number is then divided by the number of treatment data points. The range of this statistic is from 0-100% (Scruggs, Mastropieri, & Casto, 1987). Figures 5a and 5b depict an example of a player's aggression at baseline and treatment, respectively. The lowest number of aggressive acts at baseline is four. At treatment only one data point overlaps and exceeds four (noted by the arrow). Therefore, the PND is the number of data points not overlapping (4) is divided by the number of treatment data points (5). The PND score would then be equal to .8 or 80%. This effect size is valid when the number of games is approximately equal.

PND is considered a conservative measure of intervention effectiveness because it does not measure the magnitude of change. Scotti, Evans, Meyer, and Walker (1991) suggest that scores of 90% or above are highly effective interventions, 70-90% are fairly

effective, 50-70% is questionable, and anything below 50% is ineffective. In the example above, an effect size of 80% would be considered a fairly effective intervention.

The percentage of zero data (PZD) is calculated by locating the first data point in the treatment period at zero and then calculating the percent of the data points (including the first zero data point) that remain at zero. Again the statistic ranges from 0-100%. For instance, if during a treatment phase containing 5 data points, the 2<sup>nd</sup> and 4<sup>th</sup> data points

Figure 5a

*Example Player Aggression at Baseline*

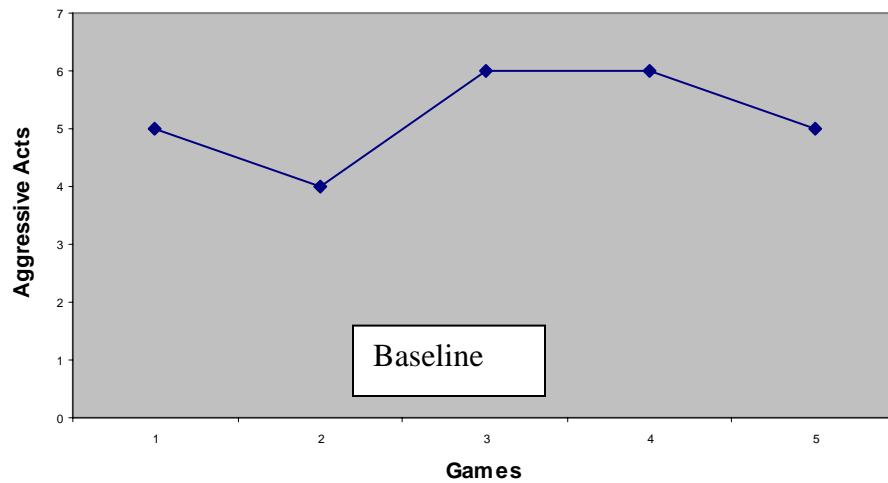
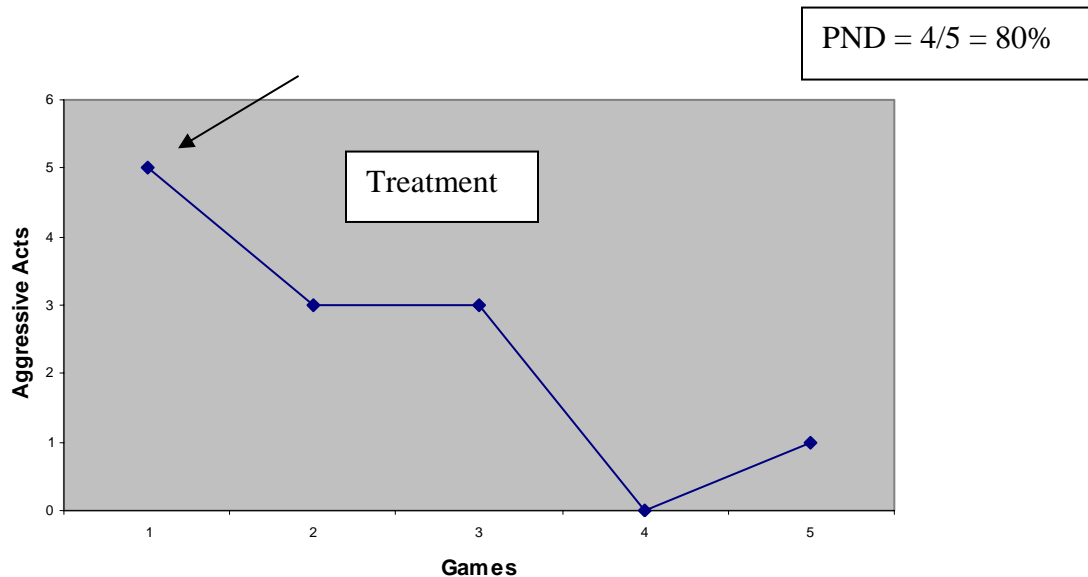


Figure 5b

*Example Player Aggression During Treatment*



Note: The arrow points to the single data point that overlaps with lowest data point at the baseline.

were zero, the PZD would be  $2/4 = 50\%$ . PZD is appropriate when the goal is to bring the target behavior to zero. PZD is considered an indicator of behavior suppression, whereas PND is an indicator of behavior reduction. Hence, it is a more stringent measure of behavior change. In addition, PZD provides an estimate of continual behavior suppression once initial suppression has been achieved.

*Purpose 2*

A formative evaluation of the effectiveness of the Playing Tough and Clean Hockey Program (Individual) involved mostly qualitative data. Information gathered from a program review from two sport psychology and hockey experts, program session notes, and participant feedback were reviewed and searched for patterns of evidence of program

effectiveness or ineffectiveness. The procedural reliability assessment is a quantitative measure that involves checking off activities that were actually implemented and compared to the proposed list (see Appendix K). Reliability of implementation is then calculated by dividing the proposed from the actual implemented activities and a percentage is obtained. Descriptive statistics from the program test provided evidence of player comprehension of the program. Finally, the program evaluation supplies qualitative and quantitative information on player perceptions of the program.

#### Playing Tough and Clean Hockey Program Procedural Evaluation

Components of the program evaluation were conducted prior to the implementation of the program. To provide the reader a chronological representation of the procedures the expert review, procedural reliability and participant selection are presented in the method.

##### *Expert Review*

The Playing Tough and Clean Hockey Program was reviewed by two AAASP-certified consultants who are members of the USOC registry of sport psychologists, and have consulted/worked with elite amateur and professional ice hockey players. Drs. Cal Botterill of the University of Winnipeg and Peter Haberl of the US Olympic Committee were selected from a list of candidates because of their great knowledge of the psychology of hockey. Both gentleman were contacted in the fall and asked to review the program. Both agreed to provide an expert analysis of the program. In November of 2004 a cover letter explaining their role as reviewers, questions to assist them in their review,

and program background and conceptual model was sent to the reviewers (see Appendix L).

The program evaluation was based on the following questions:

1. Is the program well thought out and can it make the change in behavior it is designed for (reducing aggression)?
2. Are the content of the program and the skills appropriate in meeting the purposes of the program?
3. Are the exercises appropriate in sufficiently teaching the program?
4. Does the flow of the program make sense (i.e., chronological ordering of content)?
5. Does the program have face validity in the hockey community? (Will players believe that this program can help them?)

Hence, the purpose was to determine if the process of the program could be legitimately connected to behavior change from participants. Along with the cover letter, the Playing Tough and Clean Program handbook and instructor guide were sent to the reviewers (Note: reviewers edited the full 12-session program, only the condensed 9-session program is included; see Appendices B and J respectively). Reviewers were asked to provide their review by the end of November.

The process of the review did not end with comments from the reviewers. Upon receipt of the reviewers' recommendations, the investigator and his advisor reflected and discussed on the major recommendations suggested by the reviewers (minor edits were not included, but were changed). Reviewer recommendations did not challenge the

program's efficacy or appropriateness. Recommendations focused on adding or revising components of the program to make it more effective. For instance, several very important revisions were made to the program including changing the 1<sup>st</sup> "R" of the 3 R's routine to "respond" (from the word "react" because the connotation seemed negative, "react" to the situation), adding a pro's versus con's of the consequences of aggression exercise, addressing the positive benefits of aggression and then providing sound and convincing counterarguments, including emotional inoculation in the imagery training, and adding a short discussion on emotion management in your life outside of hockey. The reviewers also provided some challenging questions/comments or "food for thought." For example, Haberl and Botterill emphasized the importance of knowing the participant, his or her motives, and perspectives of aggressive hockey. Haberl commented,

How do you get your athletes? Are they self-referred, coach referred and what is their motivation (e.g. I have a problem, I want help with this; I don't have a problem, what are you talking about!). This "selection" will influence the effectiveness of the program (e.g. with someone who already is playing "tough and clean" you probably won't see any change. With somebody who is playing 'aggressive and dirty' you might see change if the athlete is recognizing that he/she has a problem and wants to change behavior, but if you have an athlete who is convinced that "aggression" is the way to go [e.g. from a stages of change perspective the athlete is in pre-contemplation] then the 3-R's will not be helpful.) (P. Haberl, personal communication, November 24, 2004)

A response was developed for each major recommendation and as well as a proposed revision. These major recommendations, responses, and proposed revisions were then emailed back to both reviewers for their approval (see Appendix M). Neither reviewer argued our revisions, and, in fact, felt they were accurate. Botterill emailed, "*Larry, some*

*impressive & "responsive" adjustments to your program/study. ...I'm confident it will be a great start on an important issue*" (C. Botterill, personal communication, December 13, 2004). Botterill did reiterate a point of importance when asked if the program could reduce aggressive behavior,

Yes, if there is some follow-up. (I) suggest keeping a journal on your follow-up contact with players—timing, type, & content. It may reveal critical “qualitative” insights! (C. Botterill, personal communication, December 13, 2004)

Haberl also communicated his feelings for the program. *“I think this is a great program, it will be very challenging, but I tip my hat to you for doing it”* (P. Haberl, personal communication, November 24, 2004).

In sum, the expert review validated much of the program and its materials. Some revisions and changes were made relative to the reviewers’ recommendations. Therefore, the Playing Tough and Clean Hockey Program and its objectives, conceptual model, and content, according to two experts in sport psychology and ice hockey, are appropriate in reducing aggressive behavior in youth ice hockey players.

#### *Was the Program Reliably Implemented?*

Before making claims that the program changed the attitudes and behaviors of the four young men in this study, the program had to be implemented in a consistent, reliable manner. To assess this, a procedural reliability check was instituted during all 36 program sessions (see Appendix K for a sample procedural reliability check sheet).

Across the 36 sessions, only one procedure out of approximately 600-700 procedures was skipped thus putting the program at greater than 99% in procedural reliability. The

procedure skipped was a discussion about what he would do if someone was intentionally trying to hurt him. Since P2 does not retaliate or play dirty and aggressive, and the discussion was ineffective in terms of garnering a response from other participants, the investigator decided that it did not add anything to his development as a tough and clean player. Therefore, the program was reliably implemented and a program evaluation is warranted.

#### *Were Participants Appropriately Selected?*

Selection criteria were explicitly set at the beginning of this study and expressed to members of the hockey community. The criteria were that the players were physical, tough players that also received penalties for dirty play and/or were involved in the 'rough stuff.' In addition, players and parents had to commit to doing nine sessions and completing all activities, logs, and post-game reports. Using these criteria, along with constant discussions with coaches and parents and a game observation, the investigator was able to select four players for this program study.

Of the four participants one did not exactly fit the criteria set out. P2 was the model of playing tough and clean hockey, but was included for two reasons. First, participants were needed and it was already three months in to the season. Second, P2 could provide us great insight into how he plays tough and clean hockey, and the investigator thought he could still help him become more physical while playing clean hockey. Also, at the time a fifth player was participating but then dropped out. Therefore, three of the four participants seemed to fit the selection criteria well. P1 and P3 had a tendency to retaliate, whereas P4 was involved in high frequency of aggressive acts and receiving penalties.



Pre-program interviews also provided evidence that Participants 1, 3, and 4 were appropriately selected. P1, for instance, talked about how he felt it was only appropriate to be aggressive when protecting one's self or a teammate from harm. He also considered himself a player that plays clean until the opponent is dirty, and then he will react with dirty and aggressive play thus holding an "eye-for-an-eye" orientation. In the case of P3, during our pre-program interview he talked about not being a physical player. However, he also described himself as a player that retaliates and does not initiate aggression. P3 said it was never okay to be aggressive. He went on to say, "(you) don't want it to happen, but you can't control yourself..." P1 and P3 were more reactionary in their aggression, and neither felt they had been reinforced for aggressive play in the past. P4 provided a distinctly different history during our pre-program interview. In his perception, he had been reinforced in the past by coaches to hit those that hit him. Moreover, he felt his coaches sent players out on the ice to "headhunt", and he was placed in the role of an enforcer. He described his role as "fun until the referee penalizes you... I don't do that anymore." His current coach does not reinforce, but punishes aggressive play and this has helped him rethink his role in the game. P4 said he is dirty and aggressive when losing, "sticking up for a teammate and protect them", or when someone comes at him. He felt he needed to retaliate less when someone provoked him. In sum, three of the four participants discussed how they could clean up their game and be less aggressive in the pre-program interview.

In terms of the second selection criteria of commitment to the program, all four players revealed a basic level of commitment needed to be successful in the program.

Each of the players attended all nine sessions, completed all exercises, practiced every skill, and completed post-game report logs. P4 did struggle at times with logging of at-home exercises which probably limited him from even greater improvements. Ultimately, compliance was not an issue in this program for three of the four participants. In the end the investigator feels confident that the participants selected were appropriate for the program because each of them improved and, in their own perceptions, enjoyed the program. Nonetheless, to examine the effectiveness of the program with more aggressive players, because these players were not extremely aggressive, would strengthen its efficacy. However, these players seem to be the most difficult to recruit.

## CHAPTER III

### RESULTS

This results section presents the findings for the study's two purposes. For Purpose 1 the case for each participant is presented (four in total). Specifically, a background of each participant is provided, session notes are detailed, and a summary of the case is offered. Then, results from the participant's program evaluation and post-game reports of emotions and aggressive feelings, emotional control and toughness, performance, and emotional toughness skills use are presented. Finally, the participant's mean aggression and percentage of retaliation to provocation are depicted. For Purpose 2 the evaluation results are presented across the four participants. These results are then summarized and external validity is examined.

Purpose 1: Influence of the Playing Tough and Clean Hockey Program on Participants' Emotional Control, Emotional Toughness, and Aggression.

#### *Participant 1*

*Background.* Participant 1 (known as P1 from this point on) was accepted into the program because he was known, according to his father, for having a "fiery" disposition. He played defense for a team that finished in the lower half of their division in the standings. He had a tendency to retaliate, especially when he or a teammate was provoked and taking dirty shots from an opponent or in front of the net fighting for position. P1 is a smaller player who will hit and take hits. P1 seemed to start slowly as he

was playing on a new team this year, but progressively became more assertive throughout the season and seemed to play better. His minutes on the ice increased at the end of the season partially due to injuries, but it also appeared to be due to his increased assertive play as a defenseman.

In our pre-program interview P1 described himself as a player who plays clean if the opponent is clean and vice versa. Thus, he felt he was more reactionary in his aggressive behavior. This was supported in the video review of his hockey games. Prior to the program, P1 believed dirty and aggressive hockey to be a group of behaviors, namely charging, slashing, starting a fight in front of the net, hitting the back of a leg with the stick, tripping someone when the referee is not looking, and hits to the head of a shorter player. He felt this aggression normally occurred when the referee is not looking and players feel they can get away with it, in a tight game when fighting for position in front of the net because you are trying to win the game, and when “backing your teammates” or supporting them when being aggressed upon.

P1, in general, did not feel there was too much aggressive behavior in hockey even though he had experienced some of it in Pee Wee hockey (i.e., 11-12 years old league). Personally, he reported that he was dirty and aggressive when taking a dirty hit because you need to fight back so your opponent will not do it again, and tripping players when beaten to the net. In P1’s opinion, his coaches and parents do not reinforce aggressive play, but do feel he should protect himself when someone is being very aggressive on the ice. In fact, his coach will tell the team before the game to not retaliate. In the past, some coaches just let aggression go without discussing it, but did not reinforce it. Finally, his

teammates were much like him in that they played dirty only if the other team was playing dirty hockey. Finally, P1 said it is only okay to be aggressive when protecting yourself or your teammates, but it is never acceptable to hurt another player.

In sum, P1 is not a very aggressive player but does have a tendency to retaliate and fight back when an opponent does something to him or one of his teammates. His mindset is mainly one of self-preservation; 'if you come after me, I will fight back.' The underlying notion is that if you show your toughness other players will not take advantage and take additional dirty shots at you. Unfortunately, as research has shown, aggression begets aggression, and usually one aggressive act tends to lead to more exaggerated, escalated events. Because of this phenomenon, an emphasis was placed on assisting P1 to see the much greater negative consequences of retaliating and enhance his emotional toughness to maintain discipline and control in those critical situations.

*Program notes.* P1 is the youngest player in the program at 12 years of age. He is playing up an age group (Bantam, 13-14 years old). The majority of the time he plays defense, however, at times he has played on the wing. The season, from talking to his father, has been a tough one. He is trying to play at the level of the older boys and has not made the jump successfully. His father (known as P in this study) is intense, emotional and concerned with his son's development, and wants his son to learn to control his own emotions. P wants P1 to learn what he had to learn in a tougher situation – discipline while on the police force. He feels that P1 has a lot of his fiery nature in him and will need to learn the skills to harness it if he will be successful in the future (i.e., life skills). P1 does not perfectly fit the selection criteria; he is not very physical or aggressive.

However, he does do enough aggressive things, and was aggressive at his own age group, so we can consider this prevention in some respects. Specifically, he is going to play more physical as he gets older, so the investigator's goal was to help him be more physical in his style of play yet continue to compete in a legal, clean checking manner. Thus, emotional control was very important for P1.

The father's fiery nature is on display at times at practices and games where he sometimes becomes frustrated. You can see P wants to win, but it seems he is much more concerned with performance and effort. He said to me that as long as the players give the effort than he is happy. As with most parents, there is a perception that many other teams play dirty, and that the officials are quite poor at times. The investigator was not sure how much of this gets relayed to his son. P spends a great deal of time with both of his sons and wants them to excel. Throughout the program the investigator also noticed P saying that it is not okay to be dirty, but you need to protect yourself. Thus, at times, you need to "drop the gloves" otherwise players will take advantage of you. The investigator believes this message was being communicated to P1. This is not to judge or look down upon P; he values toughness and sticking up for your self. These are traits very important for someone in field such as law enforcement, and in hockey.

P1 could be characterized as a quiet, maybe even shy kid (at least around strangers). During sessions he opened up in his own way, however. He would not talk a lot, and did not ask many questions. However, when his father came into the room P1 seemed to become even quieter and very shy. This has changed as the investigator has gotten to know him. P1 has learned to trust the investigator and has opened up somewhat.

During the pre-program interview P1 talked about being a good skater, and wanting to improve his shot and checking. He felt that he is an average player at that Bantam level. He feels he tends to react quite a bit; this includes playing tough and clean or playing dirty and aggressive. P1 has a good understanding of the differences between clean and dirty hockey. In his opinion tough and clean is “not getting in the penalty box.” Dirty and aggressive hockey was considered to be charging, slashing, etc. P1 feels dirty and aggressive play normally occurs when the referee is not looking, when you are trying to win a tight game and you’re in front of the net, and when you need to back your teammates (it is important to do so). His experience has been that there isn’t too much dirty and aggressive play in youth hockey.

P1 said he tends to be dirty and aggressive when he needs to protect himself or a teammate. “You need to fight back (so they won’t do it again).” Overall, he doesn’t play dirty and aggressive too often. From the study of his video most of his aggressive behavior tends to be slashes in front of the net.

Interestingly, when asked to describe a person who exemplifies a dirty and aggressive hockey player P1 answered that the person would be really tall, take advantage of little people, be strong, and not very good. This relates to his feelings that players are often hitting him in the head and are taller and stronger at this age group.

In our first program session, P1 talked about his goal – to be tough and clean. Initially, the investigator felt P1 was in pre-contemplation about changing the way he retaliates. At the beginning of the session he said he did not need to change the way he played the game. By the end, he changed his mind; he did need to change his style of play

to “play tough and clean.” This program has helped him make this move. In this session we also discussed the difference between dirty and aggressive and tough and clean behaviors. Although he did very well, it was still important to clarify what behaviors were aggressive and assertive.

In subsequent sessions, P1 was excellent at doing the at-home activities and listening. He had well thought out answers such as his personal stories about aggression (talked about punching someone at the end of the game which led to a bench-clearing brawl and the police being called in), and his empathy and understanding that others are hurt by his aggressive play. Also, at the beginning of the second session he was asked if he knew what tough and clean and dirty and aggressive are and he answered it by basically reciting the definitions! Relative to his at-home activities he really enjoyed the controlled breathing and listed that it was always “awesome” and calmed him down. He began using it in his games without prompting. For example, in a game in early January, he used controlled breathing to recover during the games (when on the bench). Also, P1 began using his first R immediately with success! P1 and his father talked about a situation where he was slashed in the back of the knee. This would have usually triggered a hot button. However, he used his 1<sup>st</sup> R “no problem”, skated away with the puck, and later in the same shift assisted on a goal. He and his father were very happy and felt the program was paying immediate dividends (at the 4<sup>th</sup> meeting). In the next meeting, the father talked to me about P1’s nine hits in the last game, and the fact that they were all clean. P1 said he had the most hits on the team. After the meeting, the father asked if the investigator was finding what he wanted in the study. The investigator replied that he



needed to see more of the videos. He then said that it will be always hard to see it on the videos (especially since we missed a game that P1 was emotionally tough in a hot button situation – slash to leg incident detailed above). He said he totally believed that the program is making a difference. He felt the program has really helped P1 control himself on the ice, and P1 would have retaliated much more this season (similar to last season) had he not been in the program. Moreover, the father suggested that P1 is playing much better since joining the program!

It was clear that P1 was truly attempting to become a tough and clean player; that he was attempting the skills and putting a great deal of thought into it. He was open about his hockey hot buttons of when he is beaten as a defenseman, when he is hit in the head, and his general life hot button - letting the dogs out of the house. His hot buttons created a great deal of anger and frustration (rated 8 or above on a 10 point Likert scale in all hot buttons). Interestingly, in his hot button situations P1 had two different types of thoughts: revenge (“I’ll get you back) and self-deprecation (“why am I so small” and “”Why can’t I ever turn right”). He selected “no problem” as his 1<sup>st</sup> R and it was successful. In the 4<sup>th</sup> meeting he was successful at demonstrating his 1<sup>st</sup> R. Also, once we picked his 2<sup>nd</sup> and 3<sup>rd</sup> R’s (centering and then “focus on hockey”) he was able to demonstrate it in a role play. He felt that this was going to help him play tough and clean. And, according to P1 and his father it was already making a difference.

In the next session we discussed how P1’s centering helped him very much. He said he would “recommend it” to other players because it assisted him in refocusing on what he was doing, and “getting his energy back.” He used centering between face-offs and

drills, as well as conditioning drills in practice. P1 also has used his 3 R's in practice and feels that it has helped. He centered when a teammate beat him to the net, and he continued to play instead of doing something dirty or stop competing and going back to the line. We role played his 3 R's and practiced him turning and chasing his opponent while using the 3 R's. P1 felt the visualization helped him remember his 3 R's and to use it in practice. It also helped him feel more confident, strong, tough and ready to play. Finally, he said tournaments and championship games are stressful to him and he has some butterflies. It usually affected him by thinking "don't mess up", becoming tense, and playing dirty at times. P1 felt that distractions outside of hockey really are not a problem for him (he is still 12). The investigator reinforced him to use the strategies he has learned in the program. In Session 6, the investigator talked to him about loving the challenge and thinking of it as an opportunity (i.e., big games) as a way to alleviate feelings of stress in big games.

Between Sessions 5 and 6, P1 reported using his 3 R's in a game when he took a stick to the head. He became angry, thought to himself to calm down, and then he thought of the 3 R's and used them. He said it felt good and reduced his tension. He responded by rising from the ice immediately and deflecting a pass that might have led to a scoring opportunity for the other team. The video review went pretty well, although P1 didn't always remember what he was thinking and feeling. Interestingly, P1 uses his stick to find his man in front of the net. This has led to some slashes in games. The investigator talked to him about using his body instead of his stick to block any shots in front of the net while playing stick on stick with his stick on the ice. Role plays of 3 R's made P1 feel

even more confident about the 3 R's and this new strategy. When he is beaten we did decided that he should use the refocus cue of "Find your man." Finally, he felt that the imagery worked well and was more realistic than the visualization. He feels he has control of his images and can see his hot button and also see his 3 R's being completed successfully.

In Session 7, P1 related to me that the emotional control skills taught in the program were working great for him. He has used the 3 R's when hit to the head and responded positively. He felt his practice of the 3 R's has also gone well, and he just needed to keep working on it. In addition, he felt the imagery was helping him, making him more confident. The video review was of a game a month old (no other games were available). However, we had one situation where he was beaten as a defenseman (i.e., a hot button). He said he was angry and frustrated, and used his centering/controlled breathing. Afterwards he felt he played a little better. We walked through this situation and talked about staying in the game mentally and to keep playing. Before he was slowing down and thinking "he'll get a shot anyway." Finally, P1 provided some good examples to situations presented to him. For instance, the investigator asked what he would do if he developed a new hot button. He said he would do imagery of the hot button and then see the 3 R's in response! Thus, he is beginning to self-regulate his emotional toughness.

Just as Kelley and Stahelski (1970) wrote about how a competitor can draw a non-competitive person into being competitive, so can aggressive players draw in non-aggressive players. This was very apparent at the playoff game for P1 where he and his teammates were repeatedly slashed, cross checked, and punched by the opposing team.

Finally, P1 had taken enough and retaliated. My speculation, and he was asked this, was that he would have been much more likely to retaliate last year (prior to the program). The father and player said just that, P1 would have retaliated more often and more aggressively before the program. In one situation P1 was illegally knocked to the ice. He retaliated by grabbing a player's leg and tripping, in the past he would have done something much more aggressive, in his opinion. P1 felt he was tough and clean as a player now and does not retaliate as often. In fact, in a situation where a player hit him in the head, P1 used his 3 R's and refocused on playing hockey and alleviated his anger. During Session 8 we role played two situations where players took shots to his head. These role plays seem to be effective in making the 3 R's more concrete and provide the minor details (such as skating away from the player) that help P1 be successful in maintaining emotional control. An interesting caveat is the father stressing to his son to stick up for himself. They related a story to me from the weekend where a player made a dirty hit on P1's teammate and then punched P1 several times until he finally fought back. P1 and the investigator talked about this with his father. They both felt that last year P1 would have continued to fight and not listened to the official's warning to back down or receive a misconduct penalty.

In Session 8 we reviewed P1's practice of his skills which were going very well; he especially liked the imagery because it was making him very confident that he could transfer his 3 R's to games. He also felt he was successful in meeting his self-regulation goals of practicing his skills and using controlled breathing before games. Therefore, the investigator reaffirmed his commitment to these goals for the upcoming week. Our

planned discussion of using his emotional toughness skills outside of hockey required some push from the investigator, but then he came up with some ideas. He felt he could use his skills when frustrated from playing video games with his brothers, when he received poor grades/or was waiting to receive grades, and when he has a big test and is nervous. P1 opened up at this time; we had our best conversations at the beginning of the sessions when reviewing his post game reports, and in the video review.

In the final session, P1 and the investigator began by reviewing his playoff games. In one game versus (Team X) he felt he played tough and clean, however, he was dirty and aggressive towards the end of the game after being aggressed upon several times. He finally retaliated and then began a streak of six aggressive behaviors in approximately six minutes. He did not use his 3 R's in these cases, was angry, and P1 dwelled upon the dirty hits he sustained while on the bench. Thus, he regressed back into an aggressive mindset. We role played two situations where he could have used the 3 R's (after taking the big hit that seemed to start the chain reaction of aggressive behaviors and, according to P1, the hit that made him angry) and when he retaliated after being cross checked several times in front of the net. The investigator emphasized skating away from the aggressor and using the 3 R's immediately. P1 had an excellent response to how he would act next time he was cross checked in front of the net, instead of slashing he would take the stick and use his body to cover the man while using the 3 R's.

P1 did successfully use the 3 R's in his other games when he was beaten wide or hit in the head. He did this in his game versus (Team X) when hit in the head at 15:47 (was feeling a little angry and rightly so!). In his practice, P1 did not forget his 3<sup>rd</sup> R but did

struggle with it one time during the role play – he couldn't decide which 3<sup>rd</sup> R to use (find the man or focus on hockey). P1 felt the imagery was going great and he will continue to use it. He also used his controlled breathing prior to a test – one of his life skill goals! P1 felt he was successfully meeting the goals set in Session 7. P1's goals for staying emotionally tough from now on are to:

1. Keep practicing his skills 5 times per week for at least 5 minutes.
2. Use his 3 R's when he has a hot button or is losing control of his emotions – “recognize when becoming angry.”
3. Use controlled breathing prior to games – when getting dressed or when coaches talking.

In the program wrap-up, P1 felt he learned how to calm down so he does not retaliate, to control his emotions, and learned a lot of new skills that will help him later on in his life. P1 felt the three best parts of the program were the on-ice practice of centering and the 3 R's, role plays of hot buttons and 3 R's in the hallway, and reviewing his game videos. He did not have anything negative to say about the program.

*P1 program summary interpretation.* Overall, P1 and the investigator felt he made great progress. P1 learned the skills of the program and understood the concepts (as reflected in his perfect test score). P1 and his father were very happy about the program and felt it made a difference. The difference may not be significant statistically, but it is meaningful in that he developed a new perspective of how to play the game clean, maintain emotional toughness, and keep his discipline and composure. As a consultant, the investigator saw attitudinal change as well as behavioral change, albeit there were

some setbacks as in any attempt to change a learned behavior in a sport environment. P1 did very well with the practice of skills and was very thoughtful when reflecting on games. It was gratifying how P1 began to open up and hold conversations with me in the last 2-3 sessions. This is partially due to a developing of trust and credibility, and the format of those sessions including more discussions about his performances. The influence of P1's father cannot be overlooked as well. He has been touting me and the program and this has helped in compliance and interest. In the end, the investigator was very proud of P1 because he committed to the program and became a much better player and person. Now the challenge will be to continue his new style of play (i.e., tough and clean) as his own coach/teacher/sport psychologist. He will need to eliminate his stick work and continue to check in a clean manner as he goes back to his age group next season. Finally, an interesting thing happened in Session 9. P1 had a game where he thought he played tough and clean and the investigator thought he was very aggressive. It was interesting how we could have such differing opinions about this game. Could it be memory lapse or a legitimization of aggressive behavior? Or, did he honestly feel that he was tough and clean based on the very violent nature of that contest (especially the play of the opposing team)? It is possible that the program only had a temporary effect on P1 indicating the need for further intervention. It will be interesting to see how he reacts in the future when he is confronted with adverse situations such as that violent game.

#### *Did Participant 1 Learn the Program and Use Program Skills?*

As the investigator worked with P1 it became apparent that he had a good understanding of the program. His program test score of 100% (20 correct out of 20

questions) is evidence of his comprehension. Moreover, he learned how to use the program skills as indicated by his perception that it helped him become a better player.

An inspection of Table 4 reveals that the P1 felt the program was very effective (scores of 4.0 on a scale of 1 = very ineffective to 4 = very effective) in helping him achieve the major objectives of the program. Only the skill of relaxing under pressure was not considered very effective, instead it was reported as only somewhat effective. This lower rating can attributed to the lack of time spent with P1 on applying his skills to reduce tension and stress in pressure situations.

Table 4

*How Effective was the Program in Helping P1?*

| Effectiveness in Helping P1                                      | Rating |
|--|--------|
| Control emotions   | 4      |
| Play tough and clean hockey                                      | 4      |
| Avoid playing dirty and aggressive hockey                        | 4      |
| Relax under pressure   | 3      |
| Respond positively in a negative situation (emotional toughness) | 4      |
| Play better hockey   | 4      |

Note: Player rated effectiveness on a scale of 1 = very ineffective to 4 = very effective. (Question #1 from the program evaluation, see Appendix F). Values are the reported score, not a mean.

Next, it was important to understand if P1 felt he learned the skills and how difficult it was to do so. Table 5 offers P1's scores on these issues. Most important was the finding



Table 5

*P1's Evaluation of the Process of Learning Program Skills*

| Player evaluation    | Did you learn<br>this skill? | How difficult<br>to learn? | How useful<br>was skill? | How difficult<br>to practice? |
|----------------------|------------------------------|----------------------------|--------------------------|-------------------------------|
| 3 R's Routine        | Yes                          | 2                          | 4                        | 2                             |
| Controlled Breathing | Yes                          | 3                          | 3                        | 4                             |
| Centering            | Yes                          | 3                          | 4                        | 2                             |
| Imagery              | Yes                          | 3                          | 4                        | 2                             |
| Visualization        | Yes                          | 4                          | 3                        | 2                             |

Note: This table corresponds to questions 2-5 on the program evaluation (see Appendix F). Difficulty was on a scale of 1 = very difficult to 4 = very easy. Usefulness was on a scale from 1 = not useful to 4 = very useful. Values are the reported score, not a mean.

that P1 learned all of the skills, in his perception and the author's, in this program.

Interestingly, but not surprising, the 3 R's was considered more difficult to learn than the other skills. All of the skills were considered useful to a degree by P1, however, the 3 R's, centering, and imagery were considered the most useful skills. One would speculate that P1 felt these skills were more useful because he was better able to apply them in game situations. Finally, P1 felt all of these skills were somewhat difficult to practice, except for controlled breathing. This lends credence to the importance of repetition, reflection, and time when teaching these skills to young athletes.

It now was important to understand how he applied the skills he learned in the program. Table 6 provides P1's self-report assessment of his ability to use the skills taught in the program in practices, games, and in his life. Across the three situations P1

felt he applied controlled breathing and centering. The 3 R's were used in practices and games, but not in his life yet (but he said he would use it when the chance was presented). Interestingly, P1 did not feel he could use visualization or imagery in practices or games. The investigator would speculate he felt this way because imagery and visualization were only used to prepare to him to use the 3 R's, thus never at the rink (although this is a tactic that other participants did incorporate).

Table 6

*P1's Ability to Use Program Skills in Practice, Games, and in Life*

| Able to Use Skills   | In Practices? | In Games? | In Your Life? |
|----------------------|---------------|-----------|---------------|
| 3 R's Routine        | Yes           | Yes       | (Later)       |
| Controlled Breathing | Yes           | Yes       | Yes           |
| Centering            | Yes           | Yes       | Yes           |
| Imagery              | No            | No        | Yes           |
| Visualization        | No            | No        | Yes           |

Note: This table corresponds to question #6 in the program evaluation (see Appendix F).

Players were also asked to rate, on the post-game reports, their ability to use the 3 R's, controlled breathing, and centering during a game when angry, frustrated, or feeling like they wanted to be aggressive (on a scale of 1 = extremely unsuccessful, 3 = successful 50% of the time, 5 = extremely successful). P1 rated the 3 R's (M = 4.53, SD = 0.51, N = 17), controlled breathing (M = 4.58, SD = 0.51, N = 19), and centering (M = 4.69, SD = 0.48, N = 16) as extremely successful during games. Finally, P1 often

expressed the success he was having in remaining emotionally tough and playing tough and clean hockey by implementing program skills. For example, when asked about the controlled breathing after he first began to use it, P1 remarked it was “awesome.” He felt the centering “refocuses him on what he is doing” and he used it before face-offs, drills, and conditioning drills. And, the 3 R’s helped him maintain his discipline in games. In fact, relative to one situation where he was provoked, P1 said that prior to the program he “probably would have stopped and punched him.”

*Hypothesis 1: Program will Enhance Participant 1’s Emotional Control and Toughness*

To test Hypothesis 1, participants were asked to complete post-game reports of their emotions and feelings after every game (see Appendix C1 and C2 for post-game reports). As the program progressed, it was hoped that players would have enhanced feelings of emotional control and emotional toughness. P1 completed 38 post-game reports during the season, 17 during baseline and 21 during the program. An inspection of Table 7 reveals that overall P1 was in control and had relatively little negative emotions while playing hockey. When looking across the two phases of the study, not much change in the intensity of the emotions occurred. However, changes in response to these negative emotions occurred as indicated by P1’s greater control of emotions when an opponent was playing dirty (Baseline M = 3.47, Program M = 4.52) and an ability to control his temper more effectively (Baseline M = 3.65, Program M = 4.57) (both items rated on a scale of 1 = not at all like me to 5 = exactly like me).

Further inspection of Table 7 reveals that P1 felt he sometimes was tough and clean (M = 3.18, on a scale of 1 = not tough/clean, 3 = normal level of tough/clean, 5 = much

Table 7

*Participant 1 Post-Game Reports of Performance, Emotions, and Feeling States by Phase*

| Post-Game Reports                              | <u>Whole Season</u> |      | <u>Baseline</u> |      | <u>Program</u> |      |
|--|---------------------|------|-----------------|------|----------------|------|
|  | Mean                | SD   | Mean            | SD   | Mean           | SD   |
| Individual Performance                         | 3.24                | 0.97 | 3.06            | 0.90 | 3.38           | 1.02 |
| Angry  | 1.97                | 0.85 | 1.94            | 0.97 | 2.00           | 0.77 |
| Upset  | 1.89                | 0.86 | 1.94            | 1.03 | 1.86           | 0.73 |
| Frustrated                                     | 1.95                | 0.90 | 2.00            | 1.00 | 1.90           | 0.83 |
| Motivated                                      | 3.50                | 1.01 | 3.41            | 0.94 | 3.57           | 1.08 |
| Embarrassed                                    | 1.18                | 0.61 | 1.29            | 0.77 | 1.10           | 0.44 |
| Urge to Hurt Another Person                    | 1.37                | 0.59 | 1.59            | 0.71 | 1.19           | 0.40 |
| In Control of Emotions when Opponent was Dirty | 4.05                | 0.80 | 3.47            | 0.72 | 4.52           | 0.51 |
| Controlled Temper                              | 4.16                | 0.72 | 3.65            | 0.61 | 4.57           | 0.51 |
| Felt like Attacking Opponents                  | 1.61                | 0.79 | 1.94            | 0.97 | 1.33           | 0.48 |
| When Frustrated Wanted to Harm Another Person  | 1.53                | 0.80 | 1.65            | 0.86 | 1.43           | 0.75 |
| Dirty and Aggressive Play                      | 1.76                | 0.91 | 2.29            | 0.99 | 1.33           | 0.58 |
| Tough and Clean Play                           | 3.79                | 0.93 | 3.18            | 0.64 | 4.29           | 0.85 |
| Emotionally Tough                              | 4.11                | 0.65 | 3.71            | 0.59 | 4.43           | 0.51 |
| Success of 3 R's                               | 4.53                | 0.51 | *               | *    | 4.53           | 0.51 |

|                                 | <u>Whole Season</u> |      | <u>Baseline</u> |    | <u>Program</u> |      |
|---------------------------------|---------------------|------|-----------------|----|----------------|------|
| Post-Game Reports               | Mean                | SD   | Mean            | SD | Mean           | SD   |
| Success of Controlled Breathing | 4.58                | 0.51 | *               | *  | 4.58           | 0.51 |
| Success of Centering            | 4.69                | 0.48 | *               | *  | 4.69           | 0.48 |

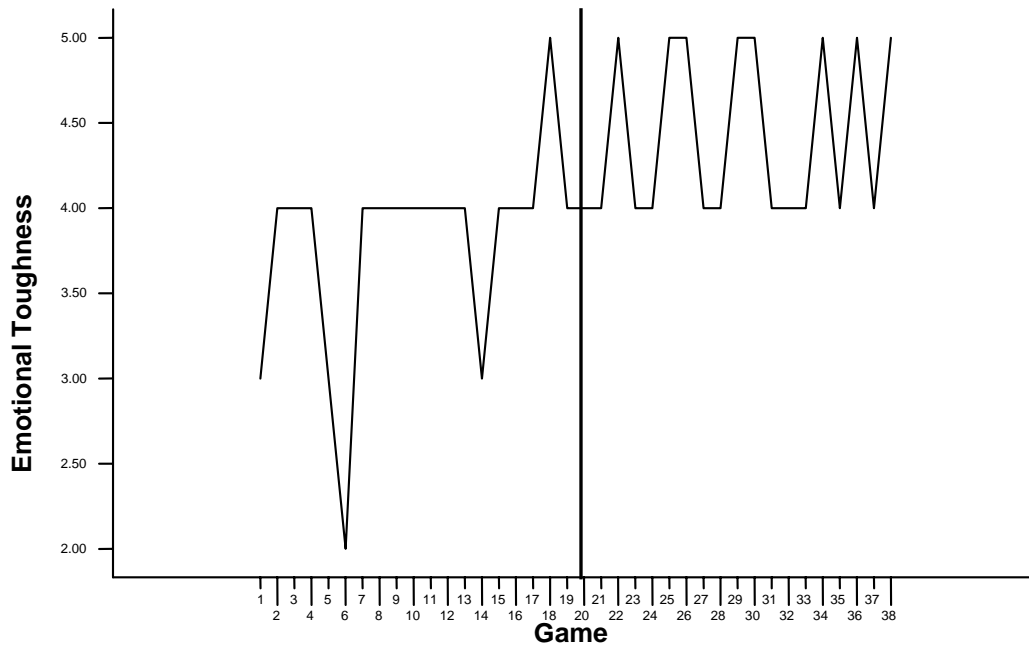
Note: Higher scores on negative emotions, aggressive feelings, and magnitude of dirty and aggressive hockey indicate a greater intensity or frequency of that variable. Baseline n = 17, Program n = 21. \*Scores not obtained because skills were not taught yet.

more tough/clean) and emotionally tough (M = 3.71, on a scale of 1 = unable, 3 = sometimes, 5 = always) during the baseline phase, but during the program he was more able to play tough and clean (M = 4.29) and be emotionally tough (M = 4.43). P1's self-report of his ability to remain emotionally tough during games is graphed by phase in Figure 6 and uncovers the fluctuation by game and the noticeable rise in emotional toughness. In fact, the highest score at baseline did not surpass his lowest score (4.0) during the program.

P1's perception of his dirty and aggressive play dropped strikingly from baseline (M = 2.29) to the program phase (M = 1.33) (on a scale of 1 = much less aggressive, 3 = normal, 5 = much more aggressive than normal). Thus, he felt he was just less aggressive than normal at baseline which may be accounted for by the presence of the program leader and the completing of post-game reports, but was much less aggressive at the program phase. Figure 7 depicts P1's self-report of dirty and aggressive play and tough and clean play across the season. Recognize that at baseline the data points often overlap, whereas at program phase there is a marked rise in tough and clean with a concomitant drop in dirty and aggressive play. Interestingly, the decrease in dirty and aggressive play

Figure 6

*Participant 1 Self-Report of Emotional Toughness during Baseline and Program Phases*



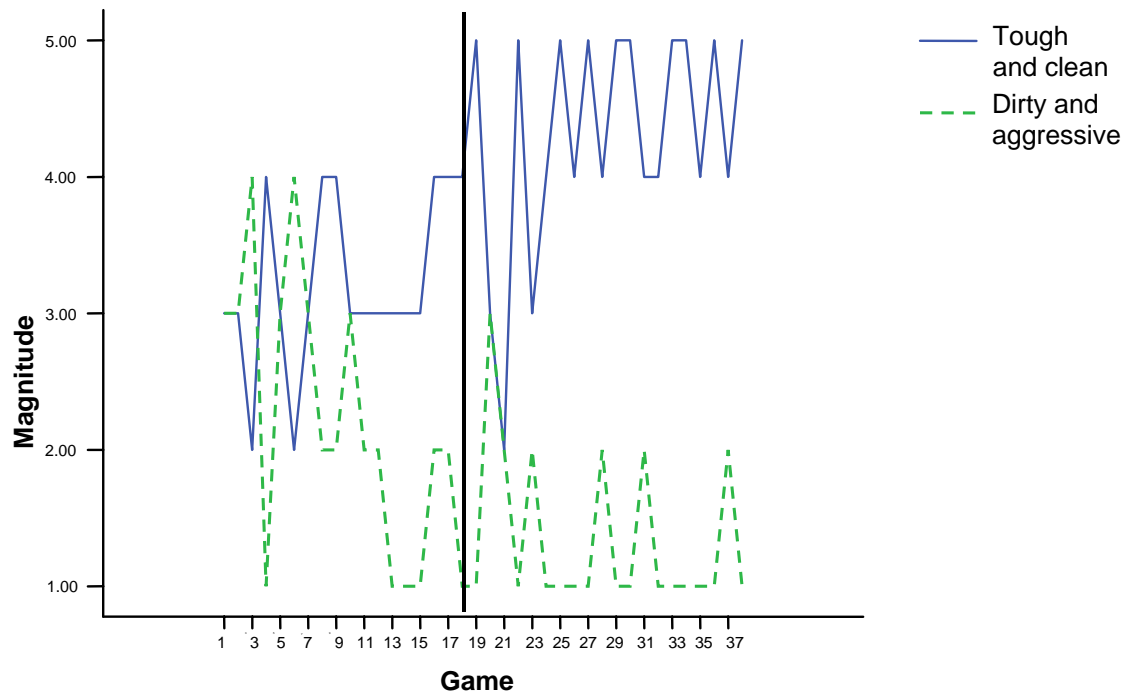
Note: Ability to be emotionally tough in adverse situations was rated on a scale of 1 = unable, 3 = sometimes, 5 = always.

began just prior to the start of the program and then maintained a low level through out the program. P1 talked about how he was much less likely to be aggressive when provoked during the program phase, thus just adding additional evidence that he, in his perception, was a tougher and cleaner player.

P1's enhanced ability to play tough and clean hockey and remain emotionally tough in adverse situations did not result in an enhanced rating of performance (Baseline M = 3.06, Program M = 3.38, on a scale of 1 = terrible, 3 = average, 5 = great performance), even though the P1 talked about how he was playing better. The investigator and assistant also noticed an improvement in his play (see Table 7 on page 95).

Figure 7

*Participant 1 Self-Report of Magnitude of Tough and Clean and Dirty and Aggressive Play*



Note: Tough and clean play was rated on a scale of 1 = not tough and clean to 5 = much more tough and clean. Dirty and aggressive play was rated on a scale of 1= much less aggressive to 5 = much more aggressive.

*Intercorrelations of dependent variables.* Correlations were analyzed on the dependent variables from the post-game report. The results of these intercorrelations are tabled by phase and presented below (see Tables 8 and 9).

Review of the correlations of variables in the baseline phase (Table 8) reveals that, not surprisingly, anger was significantly correlated to being upset ( $r = .876$ ,  $p < .01$ ) and to several aggressive feelings items (urge to hurt another, feeling like attacking, and frustrated and wanting to harm). Moreover, P1's anger was significantly related to dirty

and aggressive hockey ( $r = .676, p < .01$ ). Importantly, anger was negatively correlated to maintaining emotional control when an opponent is dirty ( $r = -.679, p < .01$ ), temper control ( $r = -.784$ ), and playing tough and clean hockey ( $r = -.491, p < .05$ ). Feelings of frustration was also negatively associated with temper control ( $r = -.618, p < .01$ ), playing tough and clean hockey ( $r = -.590, p < .05$ ), and the ability to be emotionally tough in adverse situations ( $r = -.532, p < .05$ ). Finally, when P1 played tough and clean hockey he was able to control his temper ( $r = .658, p < .01$ ) as would be expected. In this baseline phase, P1's performance was not significantly related to playing tough and clean or the ability to be emotionally tough.

In the program phase of the study, P1's feelings of anger were related to being upset ( $r = -.799, p < .01$ ), but not to the aggressive feelings variables besides feeling like attacking ( $r = -.535, p < .05$ ) (see Table 9). Thus, P1 was angry at times but did not necessarily have aggressive feelings accompanying this anger (i.e., the psychological bridge to aggression according to Buss and Perry, 1992). Frustration was also not related to aggressive feelings providing evidence that P1 may have been having the same negative emotions but was responding more positively to them. Anger was still significantly associated with dirty and aggressive hockey ( $r = .447, p < .05$ ), but accounted for less variance than the association in the baseline phase. Finally, anger was negatively correlated to playing tough and clean hockey ( $r = -.561, p < .01$ ).

An important finding was that the 3 R's were negatively associated with dirty and aggressive hockey ( $r = -.636, p < .01$ ), and positively associated with playing tough and clean hockey ( $r = .562, p < .05$ ) and emotional toughness ( $r = .653, p < .01$ ). These



Table 8

*Participant 1 Intercorrelation Matrix Baseline Phase*

| Variables                | 2   | 3     | 4     | 5     | 6     | 7     | 8      | 9      | 10     | 11     | 12     | 13     | 14    |
|--------------------------|-----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|
| 1. Performance           | .44 | .27   | -.347 | .78** | -.57* | .24   | -.14   | -.07   | .08    | -.13   | .05    | .20    | -.20  |
| 2. Anger                 |     | .88** | .39   | .44   | -.06  | .78** | -.68** | -.78** | .67**  | .57*   | .68**  | -.49*  | -.47  |
| 3. Upset                 |     |       | .43   | .22   | -.06  | .73** | -.64** | -.74** | .56*   | .61**  | .64**  | -.37   | -.34  |
| 4. Frustration           |     |       |       | -.13  | .32   | .44   | -.52   | -.62** | .32    | .58*   | .38    | -.59*  | -.53* |
| 5. Motivation            |     |       |       |       | -.35  | .18   | -.21   | -.28   | .30    | -.04   | .33    | -.03   | -.56* |
| 6. Embarrassed           |     |       |       |       |       | .12   | -.15   | -.30   | .44    | .64**  | .46    | -.49*  | .20   |
| 7. Urge to Harm          |     |       |       |       |       |       | -.58*  | -.65** | .69**  | .67**  | .63**  | -.52*  | -.31  |
| 8. Emotion Control       |     |       |       |       |       |       |        | .69**  | -.50*  | -.62** | -.56*  | .22    | .35   |
| 9. Control Temper        |     |       |       |       |       |       |        |        | -.68** | -.73** | -.76** | .66**  | .57*  |
| 10. Attack Opp.          |     |       |       |       |       |       |        |        |        | .80**  | .81**  | -.59*  | -.36  |
| 11. Frustrated Want Harm |     |       |       |       |       |       |        |        |        |        | .72**  | -.68** | -.22  |
| 12. Dirty Aggressive     |     |       |       |       |       |       |        |        |        |        |        | -.59*  | -.38  |
| 13. Tough Clean          |     |       |       |       |       |       |        |        |        |        |        |        | .48   |
| 14. Emotion Tough        |     |       |       |       |       |       |        |        |        |        |        |        | —     |

Note: \*\*p &lt; .01 \*p &lt; .05

Table 9

*Participant 1 Intercorrelation Matrix Program Phase*

| Variables                | 2      | 3      | 4      | 5      | 6     | 7    | 8     | 9      | 10    | 11    | 12     | 13     | 14    | 15     | 16    | 17     |
|--------------------------|--------|--------|--------|--------|-------|------|-------|--------|-------|-------|--------|--------|-------|--------|-------|--------|
| 1. Performance           | -.57** | -.66** | -.66** | .70**  | -.53* | .06  | .08   | .23    | -.17  | .10   | -.56** | .56**  | .44*  | .30    | .16   | .17    |
| 2. Anger                 |        | .80**  | .70**  | -.42   | .59** | .16  | -.13  | -.26   | .54*  | .00   | .45*   | -.46*  | -.38  | -.27   | -.08  | -.11   |
| 3. Upset                 |        |        | .72**  | -.59** | .68** | .10  | -.33  | -.45*  | .43   | .03   | .60**  | -.66** | -.50* | -.41   | -.27  | -.36   |
| 4. Frustration           |        |        |        | -.55** | .58** | -.09 | .12   | -.10   | .33   | -.09  | .28    | -.39   | -.25  | .01    | .00   | -.16   |
| 5. Motivation            |        |        |        |        | -.55* | .43  | .16   | .11    | .00   | -.01  | -.32   | .42    | .35   | .33    | .16   | .36    |
| 6. Embarrassed           |        |        |        |        |       | -.11 | -.24  | -.26   | .32   | .18   | .27    | -.62** | -.19  | .a     | -.276 | -.38   |
| 7. Urge to Harm          |        |        |        |        |       |      | -.51* | -.56** | .69** | .38   | .36    | -.32   | -.42  | -.49*  | -.34  | -.37   |
| 8. Emotion Control       |        |        |        |        |       |      |       | .72**  | -.34  | -.49* | -.45*  | .56**  | .44*  | .78**  | .78** | .87**  |
| 9. Control Temper        |        |        |        |        |       |      |       |        | -.41  | -.55* | -.51*  | .42    | .36   | .54*   | .57*  | .59*   |
| 10. Attack Opp.          |        |        |        |        |       |      |       |        |       | .42   | .48*   | -.49*  | -.41  | -.43   | -.23  | -.42   |
| 11. Frustrated Want Harm |        |        |        |        |       |      |       |        |       |       | .12    | -.13   | .02   | -.41   | -.46  | -.65** |
| 12. Dirty Aggressive     |        |        |        |        |       |      |       |        |       |       |        | -.72** | -.51* | -.64** | -.38  | -.23   |
| 13. Tough Clean          |        |        |        |        |       |      |       |        |       |       |        |        | .52*  | .56*   | .52*  | .50    |

| Variables          | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15    | 16   | 17    |
|--------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|-------|------|-------|
| 14 Emotion Tough   |   |   |   |   |   |   |   |   |    |    |    |    |    | .65** | .30  | .32   |
| 15. 3 R's          |   |   |   |   |   |   |   |   |    |    |    |    |    |       | .54* | .60*  |
| 16. Control Breath |   |   |   |   |   |   |   |   |    |    |    |    |    |       |      | .87** |
| 17. Centering      |   |   |   |   |   |   |   |   |    |    |    |    |    |       |      | —     |

Note: \*\*p < .01 \*p < .05

a = correlation coefficient was not computed because a lack of variance.

relationships provide evidence that the 3 R's were perceived as successful for P1.

Controlling one's emotions while an opponent is playing aggressively and temper control were highly related to the emotional toughness skills taught in this program (i.e., 3 R's, controlled breathing, and centering). Specifically, P1's ability to maintain emotional control was significantly related playing tough and clean hockey and the ability to be emotionally tough thus providing support for the importance of controlling one's emotions during hockey.

*Hypothesis 2: Following Program Implementation Participant 1 will Exhibit Fewer Aggressive Acts*

The second hypothesis asserted that participants would reduce their observed aggressive behavior following program implementation. To test this hypothesis P1's games were taped and aggressive behaviors tallied from the videos. Table 10 provides the frequency breakdown of aggressive acts viewed in the baseline and program phases. When one reads the totals it looks as though P1 was appreciably more aggressive in the program phase. However, P1 had four more games in the program phase and he played noticeably more at the end of the season. Also, P1 was more assertive at end of season, and more involved in the play. Clearly, P1's most frequent aggressive act is slashing. In the sessions P1 and the investigator talked about eliminating these minor aggressive behaviors. He talked about how he used his stick to find the man in front of the net, often leading to making contact with his opponent with his stick.

*Major and minor aggression.* The aggressive behaviors in Table 10 can be reduced into major and minor aggressive acts. Acts categorized as major aggressive are

Table 10

*Participant 1 Frequency Breakdown of Aggressive Acts*

| Aggressive Acts               | Baseline  | Program   | <i><b>Total</b></i> |
|-------------------------------|-----------|-----------|---------------------|
| Clipping (Clip)               | 0         | 0         | <b>0</b>            |
| <i>Cross-checking (CC)</i>    | <i>0</i>  | <i>2</i>  | <i><b>2</b></i>     |
| High-sticking (HS)            | 1         | 3         | <b>4</b>            |
| Pushing (PU)                  | 0         | 2         | <b>2</b>            |
| <i>Charging (CH)</i>          | <i>0</i>  | <i>1</i>  | <i><b>1</b></i>     |
| <i>Roughing (Rgh)</i>         | <i>5</i>  | <i>8</i>  | <i><b>13</b></i>    |
| <i>Boarding (B)</i>           | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| Grabbing (G)                  | 1         | 0         | <b>1</b>            |
| Slashing (SL)                 | 19        | 30        | <b>49</b>           |
| <i>Check from Behind (CB)</i> | <i>2</i>  | <i>0</i>  | <i><b>2</b></i>     |
| <i>Elbowing (EL)</i>          | <i>1</i>  | <i>0</i>  | <i><b>1</b></i>     |
| <i>Kneeing (KN)</i>           | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| <i>Kicking (KI)</i>           | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| <i>Fighting (FG)</i>          | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| <i>Spearing (Sp)</i>          | <i>2</i>  | <i>1</i>  | <i><b>3</b></i>     |
| Tripping (TR)                 | 1         | 0         | <b>1</b>            |
| Totals                        | <b>32</b> | <b>47</b> | <b>79</b>           |

Note: There were 8 games in the baseline and 12 games in the program period. Not all possible aggressive behaviors are included in table due to space restrictions. Italicized rows indicate major aggressive acts.

italicized in the table. P1 at baseline exhibited 10 major aggressive acts in 8 games, while in the program phase he committed 12 major aggressive acts in 12 games. Hence, the rate of P1's major aggression was reduced very little.

*P1 aggressive acts per game and critical incidences/retaliations.* Inspection of Table 11 reveals that P1 did not significantly reduce his aggressive acts per game (Baseline M = 4.0, Program M = 3.92). P1's critical incidences, however, provide a deeper understanding of the differences between the baseline and program phases. In the baseline phase P1 retaliated 38.46% of the time he was provoked. In stark contrast, in the program phase P1 was faced with 45 more critical incidences, yet retaliated only 17.65% of the time. Therefore, during the program P1 showed tremendous improvement in retaliating to being provoked. However, he did not exhibit improvement in terms of frequency of aggression most likely because of the number times he was provoked.

Table 11

*Participant 1 Aggressive Acts by Phase of Study*

|               | Aggressive | Mean       | Critical   |              | Percent     |
|---------------|------------|------------|------------|--------------|-------------|
| Study Phase   | Acts       | Aggression | Incidences | Retaliations | Retaliation |
| Baseline      | 32         | 4.0        | 26         | 10           | 38.46%      |
| Program       | 47         | 3.92       | 68         | 12           | 17.65%      |
| Season Totals | 79         | 3.95       | 94         | 22           | 23.40%      |

Note: In the baseline 8 games were viewed, in the program phase 12 games were viewed.

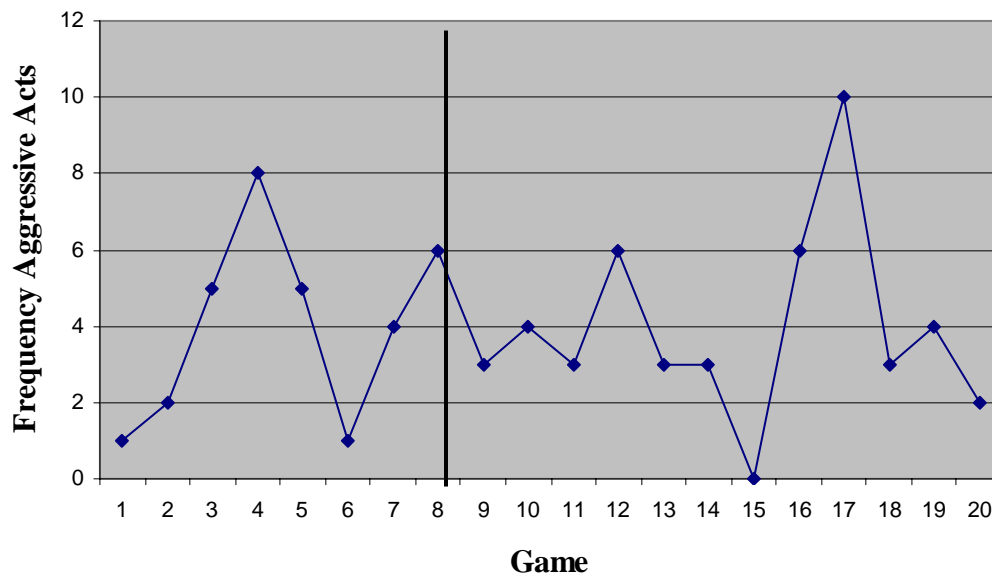
A better understanding of P1's aggressive behavior can be obtained by examining his aggressive acts per game. Observing Figure 8 highlights several interesting findings.

Visual inspection of the P1's aggressive acts per game reveals that his baseline aggression was not stable (i.e., last three games prior to program phase does not deviate more than two acts above or below mean) but was headed in a direction opposite of proposed program effect. More evidence of a slight program effect is provided by the immediate drop in aggressive acts after the implementation of the program. However this is tempered by a rise in Game 12 and Games 16 and 17.

The effect size was calculated with several indices, MBLR, PND, and PZD, none of which provided a large effect size. Mean Baseline Line Reduction (MBLR) revealed a

Figure 8

*Participant 1 Aggressive Acts per Game, Baseline and Program Phases*



Note: Program phase began after the eighth game (denoted by full line).

2% behavior change, thus accounting for the minute decrease in aggressive acts ( $4.0 - 3.92 = (.08/4) \times 100 = 2\%$ ). One could argue again that he was playing more often at this point of the season and was involved in many more critical incidences.

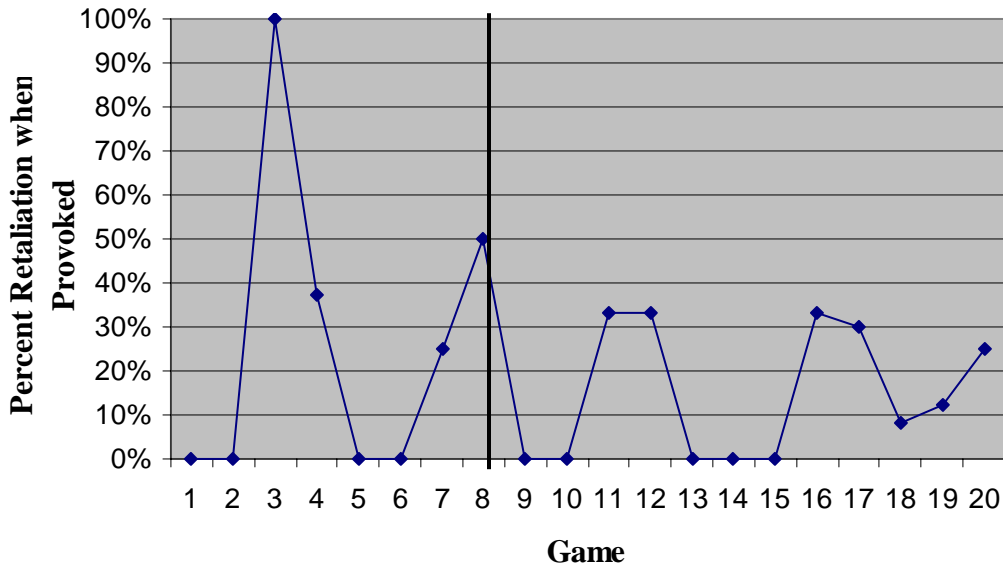
The percentage of non-overlapping data revealed that because the participant had two games where he had only one aggressive act in the baseline, only one data point did not overlap in the program period (1 out of 12 games = 8.33%). The PND then was only 8.3%. Finally, the percentage of zero data (PZD), a percentage of the number of games aggressive behavior is suppressed after the first zero frequency game showed that after the first zero at game 15, no more zeros occurred so 1 zero divided by 6 games = 16.7% behavior suppression. All of these effect sizes are very low.

A problem with the above calculations is that it does not account for times when P1 needed to be emotionally tough. An analysis of critical incidences where he was provoked and the number of times he retaliated revealed the positive effect of the program. Visual inspection of Figure 9 does not illustrate any great effects relative to percentage retaliation. P1 was however heading in an opposite direction (i.e., retaliating more often) prior to the baseline, and had an immediate drop at the program's implementation after Game 8. Moreover, his two highest percentage retaliation games occurred in the baseline, and he never retaliated more than a third of the time in the program phase. Calculation of the PZD showed a percent aggressive behavior suppression of 41.7% thus providing some support for a change in P1's behavior. And, looking back to Table 11 above showed how P1 had an approximately 21% drop in percent retaliation from baseline to program. Hence, he was much less likely to retaliate



Figure 9

*Participant 1 Percentage of Retaliations to Being Provoked (Critical Incidences)*

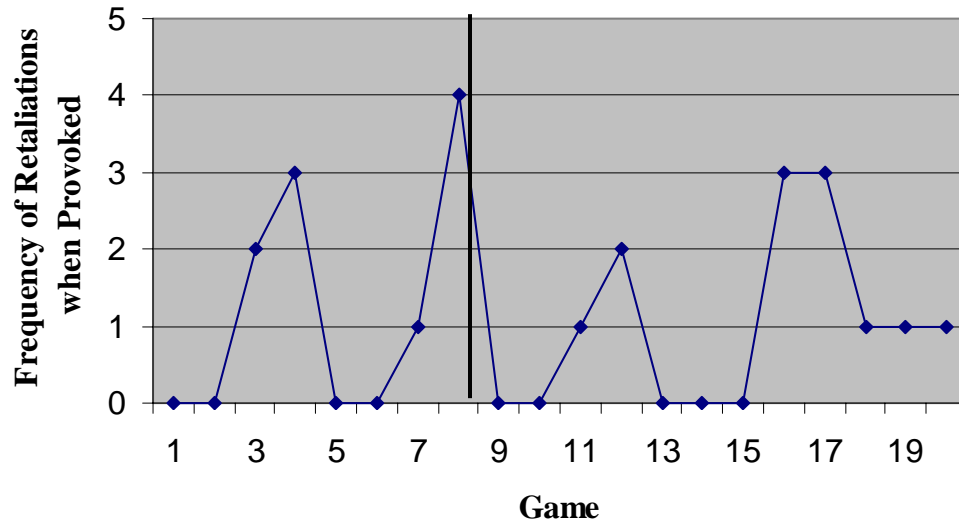


Note: Program phase began after the eighth game (denoted by line).

in the program period. Figure 10 below offers P1's frequency of retaliations and shows the rise in two playoff games at the end of the season which increased his retaliation percentage greatly. P1's mean at baseline was 1.6, and at program was 1.0. MBLR indicated a 37.5% change in retaliatory behavior thus, meaning the player was 37.5% less likely to retaliate after implementing the program. With the exception of those two it is clear that P1 was not retaliating very often during the program, combined with his more assertive play and much greater number of provocations, P1 met his goal of retaliating less often.

Figure 10

*Participant 1 Frequency of Retaliation to Being Provoked (Critical Incidences)*



Note: Program phase began after the eighth game (denoted by line).

*Participant 2*

*Background.* P2 is a 14 year old Bantam player. His father coached the team. P2 was small in stature for his age group. However, he was an excellent hockey player and more than made up for a lack of size with very good skating, puck handling, passing, and shooting. From watching the video and talking to P2 and K (his father), it was clear that of the group in this program, he was the model tough and clean player. He had an excellent ability to check clean and take checks. P2 rarely retaliated and had the impression that he was a leader on his team. He put a lot of responsibility on himself to perform and to lead. P2 seemed to be very perfectionistic about hockey and maybe his life in general. From my perception, P2 seemed to be a highly motivated young person who was well organized, smart, and driven to achieve. Because he was not an aggressive

player he did not really fit the selection criteria of this study even though the investigator did a great deal of talking about what he was looking for. However, a fourth participant was needed and no other individuals were available, and he was included because his father was so helpful in recruiting players and getting four players seemed doubtful at the time. That being written, the investigator was excited he was in the program. Even though he did not have a great deal of change to make relative to dirty and aggressive play, the possibility existed that P2 could play more physical while remaining a clean player. He saw the value of the program and how it could make him a better player. He provided the investigator a model from which to see if the program can take an already tough and clean player and make them even more effective. P2 bought into the program. The goal was to make sure he got what he needed to become better in the program. The investigator implemented the program as proposed but the investigator focused at times more on performance enhancement with P2.

P2's father, K, coached his team and really provided a great model for his son. He was very reserved, intelligent, and had a great perspective on youth sport. The investigator got the feeling that he wanted his son to become a better person and athlete through the program. In addition, K was very helpful in pushing other players from his team into my program. Thus, he was a savior for this study!

P2 viewed himself as an all-around player. He played center and started on the first line. He was the second leading goal scorer as of January. Yet, he was unhappy with his perceived inability to finish scoring opportunities. When P2 was asked what his strengths were he mentioned inspiring those around him to play harder, an all-around game, and

not getting weak when tired. He most wanted to improve his shooting, not become mad as easy and get open for passes more often. Interestingly, he told the investigator that he was always trying to make the big play, while doing the small things to be successful (e.g., back checking) without trying to be the star. From our interview it was clear that he thought of himself as a leader and this was very important to him.

P2 felt aggressive was good aggression, while dirty was taking ‘whacks’ at a player when one has been beaten, getting away with things behind the referee’s back, retaliating, and putting on big hits when a player has his head down. Thus, as did P1, he defined dirty play by the behaviors that constituted it. P2 felt dirty play usually happens at the face-off, scrums in front of the net, and after big hits where the person getting hit retaliates. In his experiences, P2 felt that forwards were more aggressive than defenseman and there was more verbal aggression (i.e., trash talk) than physical aggression. He also said that players model older players that are aggressive. P2 perceived tough and clean play as being physical while staying out of the box.

In the past, P2 believed his coaches were not reinforcing aggressive behavior. Moreover, he felt that if he got a penalty he probably would sit, and they may have to do more work at the next practice. The coach may even ask them why they did it.

His mother was afraid that P2 would get hurt, but has gotten used to the physical nature of hockey. His mother gasps at him when he does something dirty on the ice, whereas his father talks to him. Relative to teammates, P2 mentioned that some of his teammates think it is cool to beat up another guy or get away with it. He went on to say that the other team wants you to retaliate.

When asked what type of player exemplifies dirty and aggressive hockey, P2 said the player would be bigger, mean-looking, not pay attention to the puck (just look to ‘head hunt’), and their goal would be to take somebody’s head off. P2 felt that it was never okay to be dirty and aggressive or take someone out of the game on purpose. The investigator believed him because of what was observed of his play on the ice. Moreover, in Session 3 P2 said he did not play dirty and aggressive when others are dirty because he thinks he “is getting the best of them.” P2 was a clean player who wanted to be more physical (this was the goal he discussed in Session 1). The investigator’s goal was to help him achieve his goal while keeping him from resorting to dirty plays (which so often happens when players want to be more physical).

*Program notes.* In Session 1, P2 showed an excellent understanding of tough and clean hockey. He did struggle a little with the differences between dirty and aggressive and tough and clean hockey because he was focused on the consequence of the act (i.e., was the person injured) versus viewing it aggressive if it was intentional harm. P2 did not view himself as a dirty player; maybe a few pushes here and there, maybe a slash now and again when he could get away with it. In Session 2, he said when he played dirty and aggressive he felt anger, high energy, frustration, and stress. P2 saw the value of each emotion and agreed that one can take advantage of these emotions by playing tough and clean hockey. Even P2, who was a clean player, legitimized minor aggressive play because it was not that bad or did not hurt the other person.

P2 was doing a great job in the program at this point. He was completely doing the at-home activities and putting thought into responding to my questions. Often he had

questions of his own. He was insightful; he did very well at finding the value of different emotions. He felt the controlled breathing was very helpful and perceived the practice of it as “awesome.” He used controlled breathing successfully to remove the distractions of the day prior to practice or games, and when he was mad at his parents. In fact, his controlled breathing log revealed that he was often tense and worried before his practice of controlled breathing, but afterwards he was much less tense and worried. He also sensed that it gave him energy at times. Finally, it helped P2 study for a test he was worried about.

In Session 3, P2’s hot buttons were brought to the forefront. He said these hot buttons are his team getting scored upon (especially while on the ice), not being passed to when open, and when he has a poor shift. Dirty and aggressive play directed at him was not a hot button. He becomes mad at his teammates when they get scored on and thinks, “my team sucks” or “we are going to lose”. We easily refuted these statements and he said he truly believed that these refuting and replacing thoughts were accurate and appropriate. P2 decided his first R would be “not that big a deal.” He believed the program was working and his goals were being met. He mentioned that he wanted to watch some video of his games which the investigator reassured him that would later in the program.

In the week between Sessions 3 and 4, P2 switched his first R to “it’s alright” because the other cue set in Session 3 was not easy for him to remember. He was struggling to remember his first R, and used it sparingly in practice. Controlled breathing, on the other hand, was working well for him (other than he was getting a lump in his throat which sometimes forced him to inhale more than 3 seconds). He used controlled breathing

between periods. Centering practice went very well with P2. He said he always worried about being fatigued, but after doing the centering-run exercise (i.e., participant runs for approximately 30-45 seconds and then attempts to recover with centering), he said he was not worried about it. He selected his 3 R's as "it's alright", centering and visualizing being successful, and "let's go." He thought he could practice it in training sessions and scrimmages, in soccer, and through visualization. He also felt the visualization helped him. For P2, transfer of the 3 R's to games was an issue. After Session 4, the investigator asked P2 and his father if they perceived any differences since the start of the program. K felt that his son did not come back to the bench complaining as much about the dirty and aggressive play of his opponents. P2 talked about what he thought he learned at this point – that great players are centered and also how to use emotional toughness.

P2 found that centering refocused him as well as relieved tension and sometimes boosted his energy, as well. He used it on the bench, at the end of a shift, and even used it when he blocked a shot on a 5-on-3 and was in pain. Centering helped him refocus from being in pain to playing well. He liked it more than controlled breathing because it was more applicable to game situations.

Between Sessions 4 and 5, P2 had one hot button situation – he was not passed to when open. He used his 3 R's and continued to move forward and continued playing. Prior to using the 3 R's he would have been frustrated and dropped back defensively. He felt like there were several times (for instance, whiffing on a pass in front of the net) that he could have used the 3 R's. Skills transfer to games was the main issue with P2, as was expected. The 3 R's visualization was implemented to help cement the 3 R's in his mind,

along with the ‘walk-throughs’ he was asked to do daily. P2 had no problem visualizing his 3 R’s and was able to do it after one centered breath (he said he felt an “awakening” after doing it). In the role play, P2 did the 3 R’s, but he felt he was forcing it. Thus, it did not feel natural or automatic. The investigator stressed to him that this is to be expected, and he just needed to keep working at it. The investigator re-emphasized that he attempt the 3 R’s in practice and in games more often.

P2 felt that the discussion about energy and stress in Session 5 was helpful in terms of enhancing his hockey performance. He decided that his optimal energy temperature level was around 40-50 degrees. P2’s stressful situations were being up a goal or down a goal late in the game. He responded negatively to being down a goal by playing too defensively and not taking chances. P2 felt his stress made him tense, but he did not necessarily have any negative thoughts because of it. He felt that outside distractions did not affect him in the rink. In later sessions the goal was to help P2 play more physical while staying a clean player.

In Session 6, P2 talked about how the centering was very successful for him (much more than the controlled breathing because the one breath was more applicable to games than multiple breaths). After doing centering he felt balanced and a decrease in tension. He was using it during games. He was still however, having trouble remembering the 3 R’s in games. It was mentioned that he could tape a reminder to his stick, to which P2 responded he would put it on the cuff of his glove. When he used it, the 3 R’s were successful “for the most part.” He said after using the 3 R’s his team scored a goal and he got an assist. He sometimes forgot his first R of “It’s alright”. We continued to practice



this first R before adjusting it again. Following the video review, P2 said he did not realize how often people ‘cheap-shot’ him. He was able to stay focused and not concern himself with the dirty plays. He did pick out times where he thought he could use the 3 R’s, including a time where he tripped an opponent and a received a penalty. He was feeling frustrated because he felt like he let the team down and that his teammates were mad at him. In the imagery practice, P2 was able see it, feel it (e.g., felt a body check), and hear it (e.g., banging of the puck off the stick). For the most part he controlled the image and imagined himself being successful using the 3 R’s. He mentioned he was a little confident using the 3 R’s before, and very confident afterwards.

At the beginning of Session 7, we had a great discussion about the tension and nerves P2 experienced prior to his playoff games versus the cross-town rival team. He said he tried to forget about this tension that happened as he was walking out of the locker room. His controlled breathing did not work that well because he felt he was just too nervous. P2 was putting a great deal of pressure on himself to play great, and went on the ice and tried to do too much. It was suggested that he use imagery of playing his style of game when doing the controlled breathing in the locker room; progressive relaxation was also mentioned as a solution. Relative to the 3 R’s, P2 was still struggling to remember them; he missed two opportunities when the other team scored while he was on the ice. The suggestion again was imagery of the 3 R’s in the locker room to prepare his mind. He reported that it works somewhat when he remembers to use it. He responded to not receiving a pass by using the 3 R’s and getting back into position. In another hot button situation of allowing a goal while on the ice, P2 used the 3 R’s and it gave him energy –

but he tried to do too much with this energy and did not play his game. It appeared that many factors were related to his poorer performances – vacation travel the previous few days, and the pressure he put on himself were the biggest two. We role played the hot button of not being passed to; in this practice he responded more positively using the 3 R's. Imagery practice also went well; P2 was able to see his hot button and 3 R's. However, he was less able to feel during imagery. Meanwhile, his sense of hearing was heightened. The self-regulation discussion went okay; P2 responded that he would use his program skills in problem situations such as developing a new hot button or being unable to control his anger during the playoffs. P2's goals were to reflect after the game with imagery (which he was doing anyway), practice his skills, and monitor how he handled situations. P2 was having some success, but it was limited by his inability to remember his 3 R's in games.

In Session 8, P2 talked about how he was playing well and was in control of his emotions. The problem of remembering the 3 R's was rectified; however, P2 was distracted by using it during the game. He attempted to use it during the one minute break between periods instead of listening to the coach. We talked about better times to use the 3 R's – during the period after a shift, on the ice, etc. P2 did believe the 3 R's gave him energy. He was convinced he was meeting his goals from the last session, and mentioned that he does not yell at the referees from the bench, unlike his teammates. Imagery practice was going pretty well for the most part, sometimes P2 imaged something other than what he was attempting, but he was able to stop, refocus, and see it the next time. He generally imagined more of his play after the game as a review than as a pre-play (but we

discussed how he could use the pre-play imagery to help him build confidence and prepare). P2 believed it boosted his confidence. Video review went well because it highlighted a time that he was out for a goal against and did not use his 3 R's. We role played this situation and P2 discussed his frustration with a defenseman that was not marking the forward. He normally would have said, "Can't you cover him?" or something to that vain. We talked about being a positive leader and building up his teammates by encouraging them. Then he could get out of them what he wanted, better performance. So, we role played a more positive interaction with the defenseman once he used the 3 R's (the third R was "be positive", "be a leader", "build up" instead of his original third R of "let's go"). Those 10 minutes were very beneficial to P2 in his role as a team leader. Relative to program skills being used in his life, he reported using the 3 R's and centering in soccer. We had a great discussion and joked about times when to use it (i.e., before a "big date"). He also mentioned prior to exams using controlled breathing and focusing on the test, and dealing with his younger brother by remembering he looks up to him, so do not act like a moron and take a centered breath. P2 asserted that he would treat certain things as hot buttons – a bad day, an annoying person – and use his skills. He also mentioned using his 3 R's in his life. At the end P2 talked about how he could use these skills for a job interview.

Session 9 was an excellent session. It helped P2 and the investigator review the program and recognize what he had accomplished. Overall, P2 felt he was playing well and the team was also playing well. They had their best game of the season on Sunday, which his father said he would "have paid to see it." Relative to his 3 R's, P2 discussed

how it was working when he had hot buttons (but he has not had any recently), but it is not as successful when he attempted to do it in other situations. He mentioned using it at times where there was a lull in the action such as during an icing. For instance, P2 tried to do the 3 R's when he was fatigued; he said it did not work because he was "too into the game." We discussed how he should use the 3 R's when he loses his focus and thinks negatively, but not necessarily when he is only tired. P2 can use the centering at that point. So, we discussed to great lengths when to use the 3 R's as well as how to use it. Importantly, P2 did not feel the 3 R's were distracting him (unlike our discussion in the last session). He continued to feel the 3 R's provided him energy and a more intense focus. P2 had one opportunity to use the 3 R's when frustrated with a teammate at the tournament. He did not use the 3 R's but still was positive with his teammate. He felt he could have used his 3 R's there to help him be even more positive. Video review was successful, and we role played a situation where a player turned over the puck, it led to a goal, and he became very frustrated about it. He dwelled on this and allowed it to affect him. His new response was, as the session before, to use the 3 R's and change the refocusing cue to fit the situation, and then say something encouraging to his teammate.

P2 believed his imagery practice was going well, and he used imagery naturally so he felt he would continue to use it. He described seeing everything, and hearing it, but he did not always feel it. P2 did experience the emotions of his hot buttons as well as his refocused feeling after the 3 R's. Sometimes he still thought about irrelevant things, but he was able to successfully refocus and get his mind back on his imagery. P2 emphasized that it did not negatively affect his imagery experience.

P2 felt that he learned centering, emotional toughness, how to play better when having a bad day, and the effects of dirty and aggressive hockey (good and bad). He also mentioned that he was achieving his goal of being more physical while continuing to play clean hockey. We reviewed P2's life skill goals which he did not have an opportunity to use, but he reassured me that he would when the time comes. Then, we discussed his commitment goals from three weeks ago. P2 seemed to forget them but does two of them automatically – reflecting after games and monitoring how he handles situations. He did not feel he was totally successful at practicing his emotional toughness skills because he did not practice enough. When P2 set his goals to continue to play tough and clean, it was interesting, he said at first he would practice skills on game days, then he said at practices, until eventually it became everyday. P2 was challenged to practice his skills twice per day for about 10 minutes. This was a great stretch because it showed how he was attempting to self-regulate his emotional toughness. P2 also set goals to be calmer in certain situations (he thought the puck was jumping off of his stick way too much), to reflect after games and monitor situations, and consistently have higher energy levels. His goal achievement strategies were to check the lie of his stick, practice settling the puck, and use his skills (to be calmer with the puck and keep it from jumping on him). To maintain higher energy levels P2 said he would joke around more often in the locker room and then the last 12-15 minutes while dressing he would attempt to get focused and use imagery and controlled breathing. This was a great discussion because we talked about how he may be putting a lot of pressure on himself (perfectionist personality) and

may think too much before games. Therefore, to have a few laughs, to not think 100% hockey too early may help P2 calm down.

P2 said the program helped him and made him more aware of his emotions, as well as an enhanced understanding of how the game is about playing tough and clean, not just “taking heads off.” He felt the program provided him with tools (i.e., skills) that he could use at the rink. Moreover, P2 stated that the video review and role plays were good for helping him see when to use the 3 R’s. He liked the shooting balls in to the bucket exercise, the stress and energy session as a whole, and jokingly the “free water” provided by the investigator at sessions! P2 had two excellent comments for improving the program. One, he felt that there were a lot of things to think about and learn early on in the program, so he had more things to think about in a game. P2 remarked that it was no longer a concern. We talked about how the skills are usually taught in the preseason to avoid this very issue, but the study does not allow for that. P2 also mentioned that he would have liked more time to work on his needs and to ask questions. This makes sense, as he was not a good fit for the program, but more the model of tough and clean hockey. It was suggested that we continue to meet to work on his needs. P2’s father was happy about the program and believed it helped P2, as well as the two other players from his team.

*P2 program summary interpretation.* P2 was a very good and dedicated participant. He did what was asked of him even though he really was the model tough and clean player before joining the program. The reason that P2 was selected was because four players were needed, and it was interesting to compare his style of play with the other

players. In fact, in a post-program interview (that is not a part of this dissertation) it will be important to learn more from him about how he maintains emotional control in the face of such aggressive play from his teammates and opponents. Many times the investigator watched P2 receive a dirty shot and just continue to play! It was important that he learn skills to improve his performance, which he did to his credit, but we should meet more to work on his specific needs and goals. P2 was very serious about improving his game, and mental skills, throughout the sessions. He was a great student of hockey, and understands that he is a leader on his team. Our biggest concern throughout the program was getting the skills to transfer to games which he seemed to overcome by Session 9 via role plays, visualization and imagery, and constant practice. What was helpful for him was the work we did the last two sessions on being a positive leader, and using his 3 R's to respond positively and encourage his teammates when they made mistakes that cost the team. P2 has a bright future in hockey, but he will need to be even more physical at the more elite levels of hockey. The hope is that this program has served a preventive role, meaning he will be more mature, become bigger, stronger, and faster, be more physical yet continue to play clean and be the model of tough and clean hockey. This is when he will need the emotional toughness skills the most.

*Did Participant 2 Learn the Program and Use Program Skills?*

P2 was the model of tough and clean hockey. He also had an excellent comprehension of the program content. P2 answered correctly all 20 questions on the program test. Moreover, he perceived the skills taught in the program helped him improve as a player. In Table 12 P2's program effectiveness scores reveal his opinion

Table 12

*How Effective was the Program in Helping P2?*

| Effectiveness in Helping P2                                      | Rating |
|--|--------|
| Control emotions   | 4      |
| Play tough and clean hockey                                      | 4      |
| Avoid playing dirty and aggressive hockey                        | 4      |
| Relax under pressure   | 3      |
| Respond positively in a negative situation (emotional toughness) | 4      |
| Play better hockey   | 4      |

Note: Player rated effectiveness on a scale of 1 = very ineffective to 4 = very effective. (Question #1 from the program evaluation, see Appendix F)

that the program made him a better hockey player (scores of 4.0 on a scale of 1 = very ineffective to 4 = very effective). Only relaxing under pressure was not rated as very effective, but somewhat effective, due to the priority on emotional toughness in this program.

P2 was also asked if he had learned the skills taught in the program, and how difficult it was to learn these skills. Inspection of Table 13 shows that P2 reported learning each of the five skills taught in the program. He also felt that centering, imagery and visualization were easy to learn (scores of 4.0, on a scale of 1 = very difficult to 4 = very easy). The 3 R's and controlled breathing, in contrast, were somewhat difficult for him to learn and practice (rating of 2). According to P2, the 3 R's, controlled breathing, and centering were considered useful, whereas imagery and visualization were less useful. Imagery and



Table 13

*P2's Evaluation of the Process of Learning Program Skills*

| Player evaluation    | Did you learn<br>this skill? | How difficult<br>to learn? | How useful<br>was skill? | How difficult<br>to practice? |
|----------------------|------------------------------|----------------------------|--------------------------|-------------------------------|
| 3 R's Routine        | Yes                          | 2                          | 3                        | 2                             |
| Controlled Breathing | Yes                          | 2                          | 3                        | 2                             |
| Centering            | Yes                          | 4                          | 4                        | 4                             |
| Imagery              | Yes                          | 4                          | 2                        | 4                             |
| Visualization        | Yes                          | 4                          | 2                        | 3                             |

Note: This table corresponds to questions 2-5 on the program evaluation (see Appendix F). Difficulty was on a scale of 1 = very difficult to 4 = very easy. Usefulness was on a scale from 1 = not useful to 4 = very useful. Values are the reported score, not a mean.

visualization were taught as methods for improving one's 3 R's routine so it is likely that P2 did not view these two skills as useful relative to enhancing his game performance.

P2 was very discriminating in his opinion of when he was able to apply program skills. Inspection of Table 14 shows that P2 applied centering in practices and games as well as controlled breathing in practice, and imagery and visualization in games.

Surprising was P2's perception that he was not able to use the 3 R's in practices or games. During our sessions we often talked about how he struggled to remember his first R and use the 3 R's in games, but the investigator was under the impression that he was beginning to use the 3 R's by the end of the nine sessions. Relative to his life, P2 felt he could use imagery and visualization. In our sessions he talked about using his skills when dealing with his little brother and before tests.

Table 14

*P2's Ability to Use Program Skills in Practice, Games, and in Life*

| Able to Use Skills   | In Practices? | In Games? | In Your Life? |
|----------------------|---------------|-----------|---------------|
| 3 R's Routine        | No            | No        | Yes           |
| Controlled Breathing | Yes           | No        | No            |
| Centering            | Yes           | Yes       | No            |
| Imagery              | No            | Yes       | Yes           |
| Visualization        | No            | Yes       | Yes           |

Note: This table corresponds to question #6 in the program evaluation (see Appendix F). Values are the reported score, not a mean.

P2 was asked on the post-game report logs his ability to use the 3 R's, controlled breathing, and centering. He was to rate the effectiveness of these skills when he felt angry, frustrated, or felt like he wanted to be aggressive (scale of 1 = extremely unsuccessful, 3 = successful 50% of the time, 5 = extremely successful). P2 rated the 3 R's and controlled breathing as only successful 50% of the time. Centering, which P2 repeatedly mentioned was the best skill in the program, was considered extremely successful in games ( $M = 4.88$ ). Again, P2 had struggles with the 3 R's and remembering to use it in games. We discussed several transfer strategies and opportune times to use it. In contrast, P2 used controlled breathing but felt that it was not as successful as centering. Centering, however, provided a feeling of balance, decreased tension, increased energy, and focus. At one point he described the use of centering and visualization in one of the sessions as an "awakening" thus showing how centering helps make athletes more alert.

*Hypothesis 1: Program will Enhance Participant 2's Emotional Control and Toughness*

To assess if the program positively influenced P2's emotional control and toughness he completed a post-game report following every game (see Appendix C1 and C2 for post-game reports). P2 completed 31 post-game reports, 14 at baseline and 17 in the program phase. He rarely missed completing a post-game report and was very timely about turning them into the investigator. Table 15 presents P2's mean ratings of performance, emotions, and feelings states for the whole season, and the baseline and program phases. What is most apparent in studying this table is that P2 scored high on all positive variables and low on negative ones at baseline and program. Hence, he had very little room to improve on many constructs of interest including emotional toughness, control and temper control. His perception of his tough and clean play, however, was rated as a little more tough and clean than normal at baseline ( $M = 3.50$ , on a scale of 1 = not tough/clean to 5 = much more tough/clean), and did not improve significantly at the program phase ( $M = 3.69$ ). P2's goal for the program was to play more physical while being clean. And, although he said he was meeting this goal, he may not have improved to become a much more physical player which the video reviewers would support based on the game videos.

Dirty and aggressive play was not a concern for P2 yet it dropped from him being a little more dirty and aggressive than normal at baseline ( $M = 3.43$ ) to a little less aggressive at the program phase ( $M = 2.65$ , rated on a scale of 1 = much less aggressive to 5 = much more aggressive). Figure 11 provides a depiction of P2's self-report of tough

Table 15

*Participant 2 Post-Game Reports of Performance, Emotions, and Feeling States by Phase*

|  | Whole Season |      | Baseline |      | Program |      |
|--|--------------|------|----------|------|---------|------|
| Post-Game Reports                              | Mean         | SD   | Mean     | SD   | Mean    | SD   |
| Individual Performance                         | 3.45         | 1.03 | 3.36     | 1.08 | 3.53    | 1.01 |
| Angry  | 2.06         | 0.85 | 2.36     | 0.84 | 1.82    | 0.81 |
| Upset  | 2.03         | 0.98 | 2.29     | 1.07 | 1.82    | 0.88 |
| Frustrated                                     | 2.19         | 0.95 | 2.36     | 1.08 | 2.06    | 0.83 |
| Motivated                                      | 4.45         | 0.85 | 4.00     | 1.04 | 4.82    | 0.39 |
| Embarrassed                                    | 2.58         | 1.23 | 3.00     | 1.47 | 2.24    | 0.90 |
| Urge to Hurt Another Person                    | 1.13         | 0.72 | 1.29     | 1.07 | 1.00    | 0.00 |
| In Control of Emotions when Opponent was Dirty | 4.87         | 0.56 | 5.00     | 0.00 | 4.76    | 0.75 |
| Controlled Temper                              | 4.81         | 0.65 | 4.79     | 0.58 | 4.82    | 0.73 |
| Felt like Attacking Opponents                  | 1.16         | 0.74 | 1.36     | 1.08 | 1.00    | 0.00 |
| When Frustrated Wanted to Harm Another Person  | 1.03         | 0.18 | 1.07     | 0.27 | 1.00    | 0.00 |
| Dirty and Aggressive Play                      | 3.00         | 1.00 | 3.43     | 1.09 | 2.65    | 0.79 |
| Tough and Clean Play                           | 3.60         | 0.93 | 3.50     | 1.02 | 3.69    | 0.87 |
| Emotionally Tough                              | 4.84         | 0.58 | 4.71     | 0.83 | 4.94    | 0.24 |
| Success of 3 R's                               | 3.00         | 0.00 | *        | *    | 3.00    | 0.00 |

|                                 | Whole Season |      | Baseline |    | Program |      |
|---------------------------------|--------------|------|----------|----|---------|------|
| Post-Game Reports               | Mean         | SD   | Mean     | SD | Mean    | SD   |
| Success of Controlled Breathing | 3.00         | 0.00 | *        | *  | 3.00    | 0.00 |
| Success of Centering            | 4.88         | 0.35 | *        | *  | 4.88    | 0.35 |

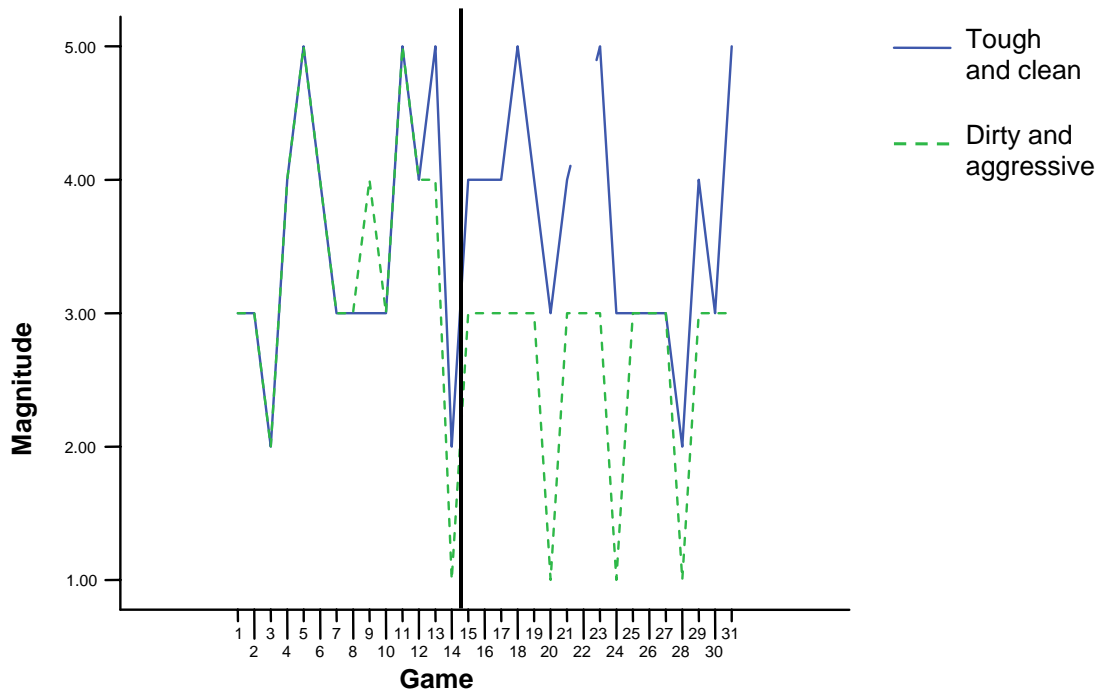
Note: Higher scores on negative emotions, aggressive feelings, and magnitude of dirty and aggressive hockey indicate a greater intensity or frequency of that variable. Baseline n = 14, Program n = 17. \*Scores not obtained because skills were not taught yet.

and clean versus dirty and aggressive hockey. As you will notice, P2's dirty and aggressive play was often reported as above normal at baseline, whereas in the program phase he perceived his dirty and aggressive play as always normal or below normal and his tough and clean play remaining normal or above normal. It is important to note that these numbers are related to P2's own low levels of dirty and aggressive behavior.

In addition, P2 felt low to moderate negative emotions at baseline and even less anger, feelings of being upset, frustration, and embarrassment during the program (see Table 15). Finally, P2's performance did not increase much from baseline to program (M at baseline = 3.36, at program = 3.53, rated on a scale of 1 = terrible, 3 = average, and 5 = great) as he generally considered his performances as a little above average. This may be due to his perfectionistic personality and unwillingness to recognize his good performances (it was a point of emphasis during our meetings for P2 to recognize what he was doing well). However, he did have a great increase in motivation from a mean of 4.0 at baseline to 4.82 during the program (on a scale of 1 = very slightly/not at all, 3 = moderately, and 5 = extremely).

Figure 11

*Participant 2 Self-Report of Magnitude of Tough and Clean and Dirty and Aggressive Play*



Note: Tough and clean play was rated on a scale of 1 = not tough and clean to 5 = much more tough and clean. Dirty and aggressive play was rated on a scale of 1 = much less aggressive to 5 = much more aggressive.

*Intercorrelations of dependent variables.* A correlational analysis was conducted on all of the variables included on the post-game report. The results of these correlations for P2 are tabled by phase and presented below (see Tables 16 and 17). One must review these correlations with caution due to the lack of variability in P2's self-report data. Several variables were not reported because they lacked sufficient variability (at baseline emotional control was not calculated, at program urge to harm others, felt like attacking

Table 16

*Participant 2 Intercorrelation Matrix Baseline Phase*

| Variables                | 2    | 3     | 4     | 5      | 6     | 7     | 8      | 9      | 10     | 11   | 12    | 13     |
|--------------------------|------|-------|-------|--------|-------|-------|--------|--------|--------|------|-------|--------|
| 1. Performance           | -.23 | -.49  | -.25  | .55*   | -.39  | -.63* | .75**  | -.64*  | -.63*  | .45  | .52   | .73**  |
| 2. Anger                 |      | .90** | .95** | -.62*  | .81** | .56*  | -.46   | .53    | .56*   | -.01 | -.05  | -.51   |
| 3. Upset                 |      |       | .90** | -.76** | .83** | .73** | -.64*  | .70**  | .73**  | -.18 | -.28  | -.69** |
| 4. Frustration           |      |       |       | -.62*  | .73** | .70** | -.48   | .67**  | .70**  | -.08 | -.11  | -.57*  |
| 5. Motivation            |      |       |       |        | -.61* | -.56* | .51    | -.55*  | -.56*  | .61* | .73** | .54*   |
| 6. Embarrassed           |      |       |       |        |       | .39   | -.36   | .34    | .39    | .05  | -.10  | -.38   |
| 7. Urge to Harm          |      |       |       |        |       |       | -.89** | .97**  | 1.00** | -.38 | -.42  | -.95** |
| 8. Control Temper        |      |       |       |        |       |       |        | -.85** | -.89** | .40  | .46   | .99**  |
| 9. Attack Opp.           |      |       |       |        |       |       |        |        | .97**  | -.40 | -.45  | -.91** |
| 10. Frustrated Want Harm |      |       |       |        |       |       |        |        |        | -.38 | -.42  | -.95** |
| 11. Dirty Aggressive     |      |       |       |        |       |       |        |        |        |      | .90** | .40    |
| 12. Tough Clean          |      |       |       |        |       |       |        |        |        |      |       | .46    |
| 13. Emotion Tough        |      |       |       |        |       |       |        |        |        |      |       | —      |

Note: \*\*p < .01 \*p < .05

The emotional control variable was not included because it lacked variance.

Table 17

*Participant 2 Intercorrelation Matrix Program Phase*

| Variables           | 2     | 3      | 4      | 5       | 6      | 7     | 8      | 9     | 10    | 11      | 12    |
|---------------------|-------|--------|--------|---------|--------|-------|--------|-------|-------|---------|-------|
| 1. Performance      | -.108 | -.240  | -.265  | .409    | -.077  | .175  | .135   | .409  | .505* | .135    | .213  |
| 2. Anger            |       | .829** | .670** | -.497*  | .659** | .338  | .262   | -.301 | .006  | .262    | -.267 |
| 3. Upset            |       |        | .529*  | -.636** | .839** | .310  | .240   | -.456 | -.290 | .240    | -.267 |
| 4. Frustration      |       |        |        | -.158   | .650** | -.177 | -.293  | -.351 | .028  | -.293   | -.204 |
| 5. Motivation       |       |        |        |         | -.404  | -.149 | -.116  | .190  | .307  | -.116   | -.143 |
| 6. Embarrassed      |       |        |        |         |        | .178  | .067   | -.404 | -.257 | .067    | -.079 |
| 7. Emotion Control  |       |        |        |         |        |       | .947** | -.149 | -.123 | .947**  | .a    |
| 8. Control Temper   |       |        |        |         |        |       |        | -.116 | -.095 | 1.000** | .a    |
| 9. Dirty Aggressive |       |        |        |         |        |       |        |       | .580* | -.116   | .655  |
| 10. Tough Clean     |       |        |        |         |        |       |        |       |       | -.095   | .114  |
| 11 Emotion Tough    |       |        |        |         |        |       |        |       |       |         | .a    |
| 12. Centering       |       |        |        |         |        |       |        |       |       |         | —     |

Note: The following variables were not included in the table because no variance existed: urge to harm others, felt like attacking others, frustration and wanting to harm opponent, success of 3 R's, and success of controlled breathing.

.a = correlation coefficient was not computed because a lack of variance.

\*\*p < .01 \*p < .05.



others, frustration and wanting to harm opponent, success of 3 R's, and success of controlled breathing were not calculated).

Baseline correlations yielded many positive associations, especially for the negative emotions which were generally related to each other. This finding was repeated during the program phase. More importantly, emotional toughness was significantly and positively associated with performance ( $r = .726, p < .01$ ), and temper control ( $r = .989, p < .01$ ). Interestingly, at baseline and during the program P2's self-perception of dirty and aggressive play and tough and clean play were highly correlated ( $r = .901, p < .01$ , and  $r = .580, p < .05$ , respectively), meaning when played extremely tough and clean hockey, he also played dirty and aggressive hockey. This makes one wonder how he was thinking about these items because they should be considered dichotomous and makes these findings suspect.

Program correlations revealed that emotional toughness was significantly associated with emotional control ( $r = .947, p < .01$ ) and temper control ( $r = 1.00, p < .01$ ). Although these findings are suspect due to the lack of variability, emotional control and temper control were significantly associated in the self-report scores of the other participants. This supports emotional toughness as a construct of maintaining one's control in the face of adversity. In addition, tough and clean hockey was significantly related to performance ( $r = .505, p < .05$ ). It was the hope of the investigator that P2's performance would be enhanced by the program. Although his performance rating did not increase greatly during the season, he did mention that he thought the program enhanced his performance.

*Hypothesis 2: Following Program Implementation Participant 2 will Exhibit Fewer Aggressive Acts*

A second contention of the Playing Tough and Clean Hockey Program was that it would decrease the frequency of aggressive actions displayed by its participants during games. Table 18 provides a breakdown of P2's aggressive acts by phase and by type. What is obvious from inspection of this table is that P2 is not a very aggressive player. In fact, he may be the toughest and cleanest hockey player the investigator has ever researched. Yet, you will find that when he was aggressive it tended to be stick-work acts. Also, P2 clearly decreased his rate of aggression from baseline to program even though his baseline rate is very low.

*Major and minor aggression.* Italicized in Table 18 are the major aggressive acts that P2 exhibited during the season. Again, he rarely was aggressive and it was even rarer that it was of the major aggression type. Specifically, at baseline P2 only committed 8 major aggressive acts in 12 games. During the program phase he dropped his rate to 4 acts in 10 games, thus revealing that P2 was even less likely to commit a roughing or elbowing penalty. What is also impressive is that unlike his peers in this study, P2 decreased his minor aggressive acts during the program phase from 21 in 12 games to 7 in 10 games. This is a most interesting finding. The investigator contemplated this result and believe it to be due to two things. First, the other participants in this study were more aggressive and had the goal of reducing their retaliatory behavior. Hence, they may have had to allocate more self-regulation resources to decrease their reactive and emotional aggression, allowing little resources to manage more instrumental, minor aggressive acts

Table 18

*Participant 2 Frequency Breakdown of Aggressive Acts*

| Aggressive Acts               | Baseline  | Program   | <i><b>Total</b></i> |
|-------------------------------|-----------|-----------|---------------------|
| Clipping (Clip)               | 0         | 0         | <b>0</b>            |
| <i>Cross-checking (CC)</i>    | <i>1</i>  | <i>0</i>  | <i><b>1</b></i>     |
| High-sticking (HS)            | 6         | 0         | <b>6</b>            |
| Pushing (PU)                  | 0         | 0         | <b>0</b>            |
| <i>Charging (CH)</i>          | <i>1</i>  | <i>0</i>  | <i><b>1</b></i>     |
| <i>Roughing (Rgh)</i>         | <i>0</i>  | <i>2</i>  | <i><b>2</b></i>     |
| <i>Boarding (B)</i>           | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| Grabbing (G)                  | 0         | 0         | <b>0</b>            |
| Slashing (SL)                 | 15        | 7         | <b>22</b>           |
| <i>Check from Behind (CB)</i> | <i>0</i>  | <i>1</i>  | <i><b>1</b></i>     |
| <i>Elbowing (EL)</i>          | <i>5</i>  | <i>0</i>  | <i><b>5</b></i>     |
| <i>Kneeing (KN)</i>           | <i>1</i>  | <i>1</i>  | <i><b>2</b></i>     |
| <i>Kicking (KI)</i>           | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| <i>Fighting (FG)</i>          | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| <i>Spearing (Sp)</i>          | <i>0</i>  | <i>0</i>  | <i><b>0</b></i>     |
| Tripping (TR)                 | 0         | 0         | <b>0</b>            |
| <i>Totals</i>                 | <b>29</b> | <b>11</b> | <b>40</b>           |

Note: There were 12 games in the baseline and 10 games in the program period. Not all possible aggressive behaviors are included in table due to space restrictions. Italicized rows indicate major aggressive acts.

such as slashing. Second, the other three participants may have self-monitored major aggression as important, but minor aggression as just part of the game. Then, the emphasis was placed on eliminating the worst forms of aggression not the minor stick work incidences. Most likely P2's ability to reduce minor aggressive acts while the other three participants did not is probably influenced by both of the aforementioned reasons.

*P2 aggressive acts per game and critical incidences/retaliations.* Examination of Table 19 exposes P2's very low rates of aggression at baseline ( $M = 2.42$  acts) and at the program phase ( $M = 1.1$  acts). He also was able to maintain his emotional toughness all but once during the entire season. Hence, one would think that P2 was a finesse player. On the contrary, P2 played physical and was provoked more than the other three players in this study. He was the model of emotional toughness and tough and clean hockey throughout the study.

Table 19

*Participant 2 Aggressive Acts by Phase of Study*

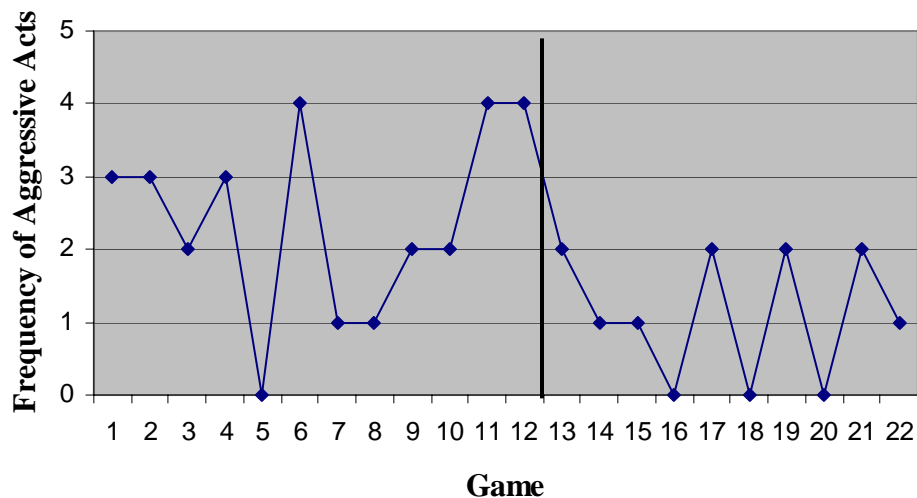
|               | Aggressive | Mean       | Critical   |              | Percent     |
|---------------|------------|------------|------------|--------------|-------------|
| Study Phase   | Acts       | Aggression | Incidences | Retaliations | Retaliation |
| Baseline      | 29         | 2.42       | 53         | 1            | 1.89%       |
| Program       | 11         | 1.1        | 75         | 0            | 0.00%       |
| Season Totals | 40         | 1.82       | 128        | 1            | 0.80%       |

Note: In the baseline 12 games were viewed, in the program phase 10 games were viewed.

An illustration of P2's aggressive acts per game during both phases of the study substantiates the improvement he made from baseline to program (see Figure 12). Again, the reader must keep in mind that P2 did not have much room to change. Visual inspection of Figure 12 demonstrates that P2's aggressive behavior was stable over the last three games of the baseline period (i.e., within two acts of the mean of 2.42). Importantly, his aggressive behavior was at its highest point (four acts) immediately prior to Session 1 of the program and dropped over the next several games. This provides

Figure 12

*Participant 2 Aggressive Acts per Game, Baseline and Program Phases*



Note: Program phase began at the thirteenth game (denoted by full line).

evidence that the program made an initial effect on P2. P2 then was able to maintain a low rate of aggression the rest of the season never going over two aggressive acts.

Calculation of the MBLR revealed a 54.5% decrease in aggressive behavior ( $[(2.42 - 1.1)/2.42(100) = 54.5]$ ) from baseline to program which is considered questionable by the standards for effect sizes set forth by Scotti et al. (1991), nevertheless, with the small amount of room for change this should be considered a more powerful result. The PND was not calculated because P2 had a zero-game at baseline, thus making it impossible to not overlap data points at the program phase. Finally, the PZD illustrates more evidence of P2's improvement. He had three games with no aggressive behaviors in the program phase, and because his first zero-game was at game 16, his PZD is 3/7 or 42.8% aggressive behavior suppression.

### *Participant 3*

*Background.* P3 was a 14 year old Bantam who plays center and defense. He was the second line center. P3 was a quiet guy who was pretty mature physically and mentally. His father and mother, G and G, were highly involved with the team as scorekeeper and manager, respectively. They both believed in the importance of the program and the father repeatedly talked about how this program could teach P3 skills he could use in life. Plus, they were very upfront that P3 retaliates, they did not know why, and they wanted it to stop. They seemed to be overall very positive and were helpful in committing P3 to this program whom, at the initial meeting, did not seem sure about participating. However, P3 was a pleasant surprise especially in regards to his commitment and compliance to the program.

P3 was a good guy with maturity and with a tendency to give short answers to questions. He did not ask many questions, but was very focused on what we were doing.

As a player, P3 viewed himself as a good thinker and having the ability to see the ice well. He also felt he had good speed. He considered himself a good all-around player, but not a physical player. P3 perceived himself as a leader on his team as one of the veterans.

P3 considered dirty and aggressive hockey as cheap shots behind the play and checking from behind. He felt it usually occurred when players were losing or frustrated, so they take it out on someone else. P3 also believed that many players retaliate to illegal hits (as he did), and it depended on the intensity and tempo of the game. P3 said he was dirty when losing and the other team was taunting them, and when he was hit illegally (he would retaliate because he wanted to get them back). P3 had experienced aggression including verbal taunts which led to a great deal of frustration for him this year. Tough and clean hockey, on the other hand, was clean play, hustle, and not illegal (taken from 1<sup>st</sup> session).

P3 reported that his current coaches sit him for dirty play and talk to him. In the past, coaches would talk to him and his teammates, but not sit them. However, aggression was never encouraged. Coaches would tell them that when provoked do not do anything, keep their mouths shut and get straight to the bench. P3 also revealed that his parents tell him not to be aggressive and to think before he acts. They emphasized “don’t do something stupid.” They also told him to calm teammates down and be a leader. Basically, they gave the same messages as the coaches. Finally, P3 felt his teammates lacked discipline and did dumb things such as take aggressive penalties, but did not think about the consequences.

When asked to describe a player that exemplified dirty and aggressive hockey, P3 said that it would be a big guy that had no purpose on the ice, could not skate, and was just out there to hurt people.

Relative to aggressive play, P3 felt it was never okay to be aggressive. He asserted players do not want it to happen, but cannot control themselves. Finally, he felt it was not okay to take players out of a game with an aggressive play.

*Program notes.* Upon starting the program, the investigator was impressed with P3's focus and commitment. He initially did well with the at-home activity and showed a good understanding of hockey. The investigator was also impressed with P3's ability to distinguish between dirty and aggressive and tough and clean hockey. And, he was very clear about how to pin and hit a man from the side so as to not hit from behind and hurt him. P3 gave quick answers suggesting he had thought about his experiences with aggression. For example, he quickly and clearly described a situation where he was hit with the stick after a goal creating a lot of pain, as well as when he punched someone in the head. He showed some empathy when he said he does think about whether someone else he hit is in pain. He was the only player to think about this during the game.

When P3 played dirty and aggressive he was frustrated, angry and retaliated. These feelings tended to happen when losing and someone provoked him. He associated this with him playing poor hockey and making bad decisions. Thus, P3 totally bought into the program. At the end of Session 1, P3 discussed his main goal of stopping his tendency to retaliate. His other goals were to be focused on games and control his temper and emotion. Finally, he said he wanted the program "to make me a better player." In Session



2, controlled breathing worked great for him, he was relaxed immediately. His breathing word was “focus.” P3 was much attuned to hockey emotions and what we were trying to accomplish. He did at first, however, struggle with seeing the value of each emotion and how he could use it to his advantage.

In Session 3, P3 said he felt the controlled breathing was enhancing his focus and relaxation. He described a situation where he was very tense before an exam, so he used controlled breathing, relaxed, and let his “brain flow.” P3 felt he did very well on the test. He also believed it was enhancing his performance. P3’s hot buttons in hockey were being tripped with no call, missed calls, and being checked from behind or punched. P3 usually thought “I’ll get you back” and became angry and frustrated. He talked about at times remembering a player’s jersey number that provoked him and getting him back later in the game. He felt what other players did to him was unfair. P3 did a very nice job of refuting and replacing his negative or ‘stinking’ thinking. From this he developed his first R – “play through it.” After the session his father talked about his perception that P3 was no longer having knee jerk reactions on the ice (which was a concern). P3 agreed and felt the strategies in the program were helping. They described a situation where P3 was challenged to fight, albeit by a 12-year old, and he skated away. Finally, P3 and G believed that his total game was coming together. Thus, they saw the benefits of the program at this earlier point.

P3 continued to report that the controlled breathing was working great for him. He was using it prior to games when tense, and on the bench. He did not have any hot buttons during the week between Sessions 3 and 4. Yet, P3 did mention in Session 3 the 3

R's were helping him in a game (his version of it, only the first R because we had not selected the other two R's yet). He was high stucked, thought about his 3 R's, and refocused successfully! To keep his emotional toughness, P3 wanted to have a feeling of being a clean player and stay focused on the game. Visualization went well; he was able to see a 2-on-1, being tripped, and felt the accompanying anger and frustration. P3 selected his 3 R's as "play through it", center and "focus", and "move on." At the time it was suggested that he may need to drop a word later because he has three instead of the normal two. P3 was doing very well in this program.

In Session 5, P3 discussed the effectiveness of centering. He felt it was very successful in getting him focused, balanced, ready, and decreasing tension. He was even more specific about the effects of centering when he said it "gets my strength back, gets my mind back on my center of gravity so I don't get knocked over." P3 has implemented it before his games to help become calm and focused thus helping him play well. He even used it when he had a paper due and was a little tense. Finally, P3 centered after a goal against in a game versus (Team X) enabling him to refocus. Twice he had hot button situations in games, a trip and a slash, and successfully used his 3 R's. In addition, P3 felt the 3 R's visualization was good because he saw his 3 R's successfully every time he practiced. He had no issues in transferring the 3 R's to games unlike his fellow participants. At the time everything was great with his 3 R's. Interestingly, in the obstacles section, P3 talked about how he may have trouble in the future using his 3 R's if he was punched hard several times in the head. We talked about an immediate reaction of skating away and using the 3 R's instead of staying in the situation.

P3 believed his optimal emotional energy level to be 55-60 degrees thus revealing that he needed to be somewhat relaxed. Two situations were stressful to him; when someone took a dumb penalty and when a lesser skilled player made a mistake and did not recover. This frustrated P3 and created tension, and sometimes led to him playing dirty and aggressive (he talked about a situation where a teammate lost their man, two men were alone in front of the net, and he pushed one man down aggressively to clear the crease). Finally, he felt he was distracted by things from outside the rink (i.e., school work, and a parent yelling at him). This caused him to play poorly because his focus was on the distractions. 'Parking' and 'bagging' (i.e., a term equivalent to parking developed by the investigator because most youth hockey players do not drive, hence players are asked to put their distractions in their hockey bag and zip it shut) were presented as possible methods for blocking these distractions while at the rink.

In Session 6, P3 discussed how centering continued to work great for him. He was also now using it prior to face-offs. He had just one hot button; he was called for a penalty and was feeling tired, angry and frustrated. P3 used the 3 R's to not yell at the referee. He also was hit in the head but the whistle blew immediately so he did not need the 3 R's. We role played this situation and talked about how P3 needed to immediately skate away and then use the 3 R's if necessary. He also used the 3 R's prior to a school test and a quiz to slow his thoughts down. Thus, P3 was adjusting the 3 R's to meet the situation! The video review was excellent and revealed to P3 when he was dirty or having negative emotions. The imagery exercise went very well also and P3 enjoyed it. He was able to see, feel, and hear the slash he received against (Team X). He was able to

successfully imagine himself controlling his emotion and responding positively. P3 was doing a great job in using the skills, monitoring his own practice, and reflecting on its effectiveness.

In Session 7, P3 talked about having success with his 3 R's except for the game versus (Team X). The day of the game P3 was tired, flat, had not eaten before the game, and considered it "a long day", thus revealing his negative mood. P3 tried his 3 R's once or twice but with no success. He felt it was unsuccessful because he was already "caught up in the emotions of the game." P3 remarked that he would rather get the emotions out of his mind, focus on his skills, and make the effort to be mentally focused. He did reveal that his response to (Team X's) aggressive play would have been much worse before the program. He implemented his 3 R's successfully versus (Team Y) when he lost the puck, and also between periods versus (Team Z) enabling him to refocus from a poor start in the game.

P3 felt that imagery of his 3 R's in a hot button situation was very successful, and he had control of it. Moreover, he was able to hear the fans, feel the movements, see the ice, and feel the emotions. Thus, P3's images were life-like and vivid with the outcome being enhanced confidence. He did say his imagery practice was not as good when he was tired in the morning, so we discussed waiting until later in the day if that occurred again. The video review was excellent because it reinforced his tough and clean play in one game and his dirty and aggressive play in the next. We discussed parking (or bagging) his outside distractions and emotions from the day and using controlled breathing more extensively to recover from a bad day. Finally, it was emphasized not to give up on the 3

R's, P3 may need to use them twice in a row to refocus. This recommendation was in response to a situation where P3 took a big hit, became angry and frustrated, skated down the ice, was still emotional, and cross checked an opponent. The discussion about self-regulation was perfectly timed because of the things P3 was going through. We talked at length about him being his own teacher/coach and monitoring and evaluating his emotional toughness. He had some good responses to the problem scenarios forwarded, including using the 3 R's, reviewing the handbook, centering, and writing notes in the logs. He believed he would continue to play tough and clean and also practice his skills. P3's goals for the next two weeks were to practice his skills everyday, use the skills during games and before games, and get down deep and really think and focus on imagery (i.e., using the 3 R's and making it very realistic). This was a great goal and was very mature! This goal was impressive when he explained how he wanted to focus intensely on making the images realistic. P3 was doing great at this time, and with the one game exception, he has been successful because he was already using his skills, as well as monitoring and evaluating them.

In Session 8, P3 discussed his commitment goals set in the last session. He felt that he was successfully achieving his goals to practice his skills, use them in games and before games, and focus intensely on his imagery. P3 talked about how the 3 R's and centering help him to be "refocused in the game", and "more sturdy on the ice... (you) don't get knocked over." In addition, he discussed the importance of using the 3 R's before the game to get focused when his teammates were screwing around in the locker room and not focused.

P3 felt he was very emotionally tough versus teams in the (X) tournament that played a ‘chippy’ (i.e., dirty play, often with the stick) style. He felt their dirty style of play tested his skills. He was successful in using his 3 R’s when he was tripped; he felt it happened naturally and automatically. He did recognize that he missed a couple of hot buttons, yet he seemed to have much more control in those situations. He then went on to report that in four games, he had nine hot buttons and used the 3 R’s eight times. The one time P3 did not use it he was too tired to retaliate anyway! To improve his 3 R’s he often said “to do it twice”, which we discussed in Session 7 as a way to stay committed to it in adverse times. Thus, the concepts and strategies being taught he was remembering and using!

P3 said there were “no weaknesses” with his imagery. He even believed it helped him transfer his 3 R’s to game situations. P3 has not struggled with forgetting the 3 R’s like his counterparts in the study. He even imagined a situation that actually occurred where he was tripped. P3 felt the imagery prepared him to use his 3 R’s naturally and automatically in that situation. Unfortunately, in the video review a game from six weeks past was only available, but we used it as a way to showcase the improvements he made. This review revealed to P3 and the investigator an old habit of retaliating by pushing or punching back at an opponent. P3’s goal was to get his opponent off of him. He received many penalties for this action in the past. Since the program has started, we have seen that behavior less often, and P3 feels he has eliminated this bad habit. We role played a situation where he used to punch back, and then did a second role play with the 3 R’s and talked about having the hands on the stick and the stick on the ice. P3 felt this was helpful

and asserted that he is still learning to master the 3 R's. P3, of all of the participants, was doing a great job of self-regulating and self-monitoring his emotional toughness skills. His commitment to the program and self-improvement were very clear. This was obvious when he, on his own accord, began using controlled breathing and the 3 R's prior to tests to calm down because the feeling was similar to the feeling he had before a big game and we talked about using his skills to calm himself and focus. The discussion about using the program skills in his life went well, he came up with five situations for using the skills. P3's goals in his life were to take a moment to use the 3 R's and controlled breathing when first handed a big test so he could relax, focus, and get in the zone, and when someone called him names to walk away and use the 3 R's.

In Session 9, P3 continued his distinct improvement. He discussed how he used his 3 R's in a variety of game situations successfully. In one situation he was tripped and there was no immediate call. P3 was tempted to yell at the official, but did his 3 R's, calmed down and then talked to the official in a respectful manner. A penalty was then called for tripping. In a second situation P3 was "trucked" or hit very hard and needed to use his 3 R's because he was upset by the big body check. He did this as the play happened and was able to refocus quickly back on hockey. Finally, P3 felt he did not use his 3 R's when he retaliated with a slash during his last game, but then took another dirty shot right after this and he used his 3 R's and did not retaliate. Thus, P3 did behave aggressively, but was able to keep himself from doing multiple aggressive behaviors, and committing more major and exaggerated acts.

The video review went very well, we discussed how he was nervous in this game and was standing tall. We discussed using centering to get back to a hockey stance and to be more alert and assertive. P3 made several mistakes during this game with the puck and allowed his frustration to stay with him as he dwelled on losing the puck which ended up going the other way for a goal. We role played how P3 should refocus using his 3 R's on the bench. We talked about using a different response such as "let it go" "it's all good from here" when responding to his stinking thinking. He considered his imagery practice "perfect." P3 feels very confident that he can use his 3 R's in games because of imagery. "It's like it has already happened before." Finally, he felt his 3 R's were now more "quick" and "smooth" in their game implementation meaning he had developed automaticity in using his 3 R's.

When asked what he learned from the program, P3 reported learning the skills, plus, how to control emotions, keep his temper, and not let negative actions affect his game play (several of his goals set in Session one). He successfully met one of his life skill goals earlier in the day by using the 3 R's prior to a test. Finally, P3 felt he was continuing to achieve his commitment goals set in Session 7 of practicing skills, using them during and before games, and to do very focused, realistic imagery. To continue to play tough and clean hockey, P3 suggested he should use the skills at least four times before and during a game, practice his skills twice per day, and use the deeply focused imagery. His strategies for achieving these goals were to keep them at the forefront of his mind, and practice imagery, centering, and 3 R's in the morning and at night.



P3 felt the program was great. He believed the practicing of the 3 R's and centering was especially helpful; it made the skills become automatic and alleviated all of his doubts. He mentioned that the skills also helped him before his tests. Most importantly, P3 felt the program made him "a better player and a better person." Additionally, he believed the logs were helpful in that they forced him to practice the skills. Finally, going over hot buttons and the 3 R's in the hallway (i.e., role plays) were very beneficial. P3 said he would change nothing about the program.

Session 9 was an excellent wrap-up session. It reinforced everything P3 was doing and reminded him about a few specific key things, how to use the skills in other situations and to continue to set and work towards his goals. He felt he was playing great and the program really helped him. His parents even said that they feel he was yelling less at the referees. They were also very happy with P3's progress and how he has played more tough and clean hockey.

*P3 program summary interpretation.* Of the four participants, P3 best understood the program and made the transfer of his skills to games most effectively. Moreover, he highlighted his comprehension of program content by continually setting goals and using skills in and outside of hockey. P3's ability to reflect and understand himself was excellent. His commitment and dedication to improving has been remarkable. P3 may have benefited more than any other participant from this program (unfortunately this was not supported by the empirical evidence). He started the program looking to make a change in his style of play. P3 talked about eliminating retaliations as his goal. He has done a great job in greatly reducing these retaliations. In fact, this program was well

suited for P3. The program emphasized emotional control more than any other strategy or concept, and this was what he needed. P3 always logged his practice and used his skills. His responsibility to the program was quite impressive. P3 loved this program and really grasped the content and made it work for him. When the investigator watched the videos he seemed to be a changed player. His enhanced emotional toughness should greatly benefit him as he enters high school hockey. It will be interesting to see if he can continue to maintain his emotional control in an even more physical, dirty type of hockey environment.

*Did Participant 3 Learn the Program and Use Program Skills?*

Working with P3 over several months illustrated his great understanding of the program. In terms of the test, P3 correctly answered all 20 questions. More impressive was his ability to transfer program content and skills to other parts of his life without prompting. For example, he implemented controlled breathing after Session 3 prior to an exam because he becomes tense and he successfully relaxed and became focused.

P3 was absolutely sold on the effectiveness of the program (see Table 20). He perceived the program as very effective ( $M = 4.0$ , scale of 1 = very ineffective, to 4 = very effective) in controlling emotion, playing tough and clean hockey and avoiding dirty and aggressive hockey, relaxing under pressure, being emotionally tough, and playing better hockey.

Next, it was important to understand how well P3 learned the skills taught in the program. From the scores above one would think P3 had relatively no problems. This is evidenced by his perception that he learned all of the five central skills in the program,

Table 20

*How Effective was the Program in Helping P3?*

| Effectiveness in Helping P3                                      | Rating |
|--|--------|
| Control emotions   | 4      |
| Play tough and clean hockey                                      | 4      |
| Avoid playing dirty and aggressive hockey                        | 4      |
| Relax under pressure   | 4      |
| Respond positively in a negative situation (emotional toughness) | 4      |
| Play better hockey   | 4      |

Note: Player rated effectiveness on a scale of 1 = very ineffective to 4 = very effective. (Question #1 from the program evaluation, see Appendix F)

and had little difficulty learning and practicing them (see Table 21). Centering, imagery, and visualization were considered “somewhat easy” to learn ( $M = 3.0$ , on a scale of 1 = very difficult to 4 = very easy) and imagery and visualization were seen as “somewhat easy” to practice. Finally, P3 reported that all five skills were useful ( $M = 4.0$ , on a scale from 1 = not useful to 4 = very useful).

Next, P3 was questioned about his ability to use the program skills (see Table 22). He reported the ability to use all five skills in practices and games which is not surprising based on his sentiments during sessions. Centering was the only skill he found he did not apply to his life. Thus, P3 successfully applied all of the skills and was a big proponent of them.

Table 21

*P3's Evaluation of the Process of Learning Program Skills*

| Player evaluation    | Did you learn<br>this skill? | How difficult<br>to learn? | How useful<br>was skill? | How difficult<br>to practice? |
|----------------------|------------------------------|----------------------------|--------------------------|-------------------------------|
| 3 R's Routine        | Yes                          | 4                          | 4                        | 4                             |
| Controlled Breathing | Yes                          | 4                          | 4                        | 4                             |
| Centering            | Yes                          | 3                          | 4                        | 4                             |
| Imagery              | Yes                          | 3                          | 4                        | 3                             |
| Visualization        | Yes                          | 3                          | 4                        | 3                             |

Note: This table corresponds to questions 2-5 on the program evaluation (see Appendix F). Difficulty was on a scale of 1 = very difficult to 4 = very easy. Usefulness was on a scale from 1 = not useful to 4 = very useful. Values are the reported score, not a mean.

Table 22

*P3's Ability to Use Program Skills in Practice, Games, and in Life*

| Able to Use Skills   | In Practices? | In Games? | In Your Life? |
|----------------------|---------------|-----------|---------------|
| 3 R's Routine        | Yes           | Yes       | Yes           |
| Controlled Breathing | Yes           | Yes       | Yes           |
| Centering            | Yes           | Yes       | No            |
| Imagery              | Yes           | Yes       | Yes           |
| Visualization        | Yes           | Yes       | Yes           |

Note: This table corresponds to question #6 in the program evaluation (see Appendix F). Values are the reported score, not a mean.

P3 was also asked to rate on his post-game report logs his ability to use three of the skills listed in Table 22. He scored the 3 R's routine ( $M = 4.20$ ), centering ( $M = 4.15$ ), and controlled breathing ( $M = 4.10$ , on a scale of 1 = extremely unsuccessful, 3 = successful 50% of the time, and 5 = extremely successful) as being able to use the skills successfully in games. During sessions P3 reported that the 3 R's was keeping him from retaliating, and that centering and the 3 R's were "automatic" and he "had no doubts" about using them. Moreover, P3 felt that imagery was an excellent tool for preparing him to play tough and clean hockey using the 3 R's. He felt his practice of it was "perfect" and that it prepared him to successfully use the 3 R's in games. Hence, P3 was very adamant that the program skills will "making him a better player." P3's success with the skills and transferring to games was based on his commitment to practice and use the skills in different situations, and then log and reflect on that practice. Of the four participants, P3 showed the greatest dedication to using the skills in the program to better him self. Without a doubt P3 gained skills that he can use following the end of the program.

*Hypothesis 1: Program will Enhance Participant 3's Emotional Control and Toughness*

To test Hypothesis 1, P3 was asked to complete post-game reports of his emotions and feelings after every game (see Appendix C1 and C2 for post-game reports). As the program progressed, it was hoped that he would have enhanced feelings of emotional control and emotional toughness. P3 completed 33 post-game reports during the season, 13 during baseline and 20 during the program. He very rarely missed completing a post-game report and was very timely about returning them to the investigator. An inspection

of Table 23 (on page 151) reveals that overall P3 had slight self-reported improvement in performance from a mean of 2.62 at baseline to 3.00 at program (on a scale of 1 = terrible, 5 = great). His negative emotions of anger, feelings of being upset, frustration, and embarrassment were all reduced from baseline to program where he felt relatively little negative emotion. Concomitantly, P3 felt more motivated during the program albeit it was slightly below what he would consider a moderate level of motivation for him (on a scale of 1 = not at all/very slightly, 3 = moderately, to 5 = extremely). Hence, he was feeling more positive emotion during the program period.

Unfortunately, these positive emotions did not translate into great improvements in his self-report ratings of tough and clean hockey (M baseline = 2.85, M program = 3.05, on a scale of 1 = not tough/clean, 3 = normal level of tough/clean, 5 = much more tough/clean) or emotional toughness (M baseline = 2.92, M program = 3.15, on a scale of 1 = unable, 3 = sometimes, 5 = always). Figures 13 (on page 152) and 14 (on page 153) depict P3's relatively self-referred normal levels of these variables. These findings are counter to his remarks during the program that he felt like he was retaliating less and more in control. What P3 was able to decrease from baseline (M = 2.92) to program was his dirty and aggressive play (M = 2.20, on a scale of 1 = much less aggressive, 3 = normal, 5 = much more aggressive than normal). Checking Figure 14 again shows how P3's dirty and aggressive and tough and clean hockey were closely related until the last five games of the season where you see tough and clean hockey staying at normal or above normal levels and dirty and aggressive hockey staying below normal levels. Hence, P3 may have just begun to perceive a difference in his own play at the end of the season

Table 23

*Participant 3 Post-Game Reports of Performance, Emotions, and Feeling States by Phase*

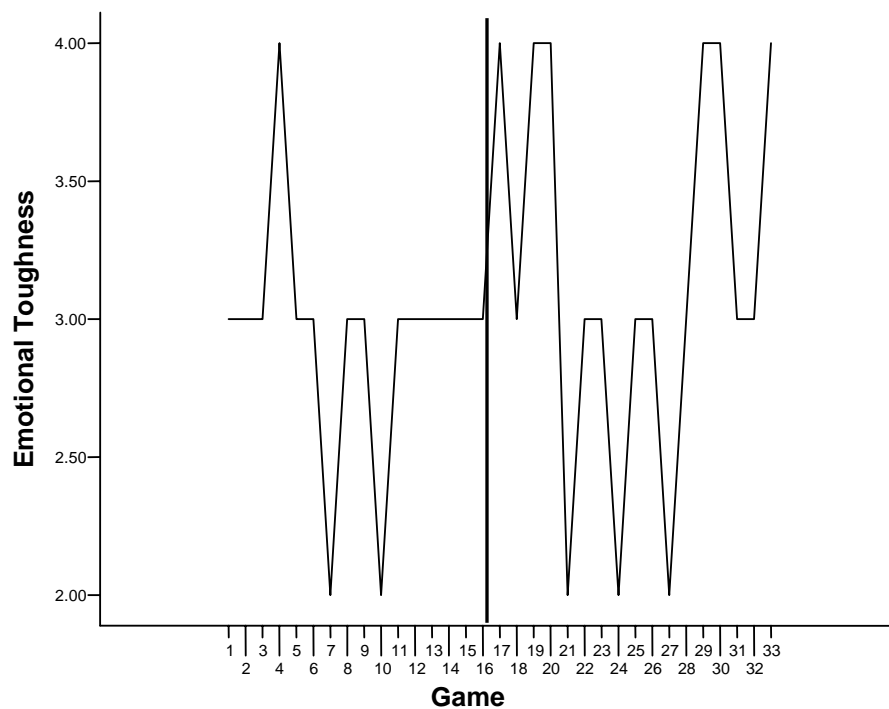
| Post-Game Reports                              | <u>Whole Season</u> |      | <u>Baseline</u> |      | <u>Program</u> |      |
|--|---------------------|------|-----------------|------|----------------|------|
|  | Mean                | SD   | Mean            | SD   | Mean           | SD   |
| Individual Performance                         | 2.85                | 0.71 | 2.62            | 0.51 | 3.00           | 0.79 |
| Angry  | 1.67                | 0.82 | 2.08            | 0.76 | 1.40           | 0.75 |
| Upset  | 1.67                | 0.89 | 1.92            | 1.04 | 1.50           | 0.76 |
| Frustrated                                     | 1.85                | 1.12 | 2.15            | 1.14 | 1.65           | 1.09 |
| Motivated                                      | 2.55                | 1.06 | 2.00            | 0.82 | 2.90           | 1.07 |
| Embarrassed                                    | 1.70                | 1.21 | 2.38            | 1.61 | 1.25           | 0.55 |
| Urge to Hurt Another Person                    | 1.36                | 0.55 | 1.69            | 0.63 | 1.15           | 0.37 |
| In Control of Emotions when Opponent was Dirty | 2.70                | 0.81 | 2.62            | 0.96 | 2.75           | 0.72 |
| Controlled Temper                              | 3.03                | 0.81 | 2.85            | 0.90 | 3.15           | 0.75 |
| Felt like Attacking Opponents                  | 1.33                | 0.48 | 1.38            | 0.51 | 1.30           | 0.47 |
| When Frustrated Wanted to Harm Another Person  | 1.42                | 0.66 | 1.69            | 0.75 | 1.25           | 0.55 |
| Dirty and Aggressive Play                      | 2.48                | 0.97 | 2.92            | 0.64 | 2.20           | 1.06 |
| Tough and Clean Play                           | 2.97                | 0.68 | 2.85            | 0.55 | 3.05           | 0.76 |
| Emotionally Tough                              | 3.06                | 0.61 | 2.92            | 0.49 | 3.15           | 0.67 |
| Success of 3 R's                               | 4.20                | 0.89 | *               | *    | 4.20           | 0.89 |

|                                 | <u>Whole Season</u> |      | <u>Baseline</u> |    | <u>Program</u> |      |
|---------------------------------|---------------------|------|-----------------|----|----------------|------|
| Post-Game Reports               | Mean                | SD   | Mean            | SD | Mean           | SD   |
| Success of Controlled Breathing | 4.10                | 0.91 | *               | *  | 4.10           | 0.91 |
| Success of Centering            | 4.15                | 0.81 | *               | *  | 4.15           | 0.81 |

Note: Higher scores on negative emotions, aggressive feelings, and magnitude of dirty and aggressive hockey indicate a greater intensity or frequency of that variable. Baseline n = 13, Program n = 20. \*Scores not obtained because skills were not taught yet.

Figure 13

*Participant 3 Self-Report of Emotional Toughness during Baseline and Program Phases*

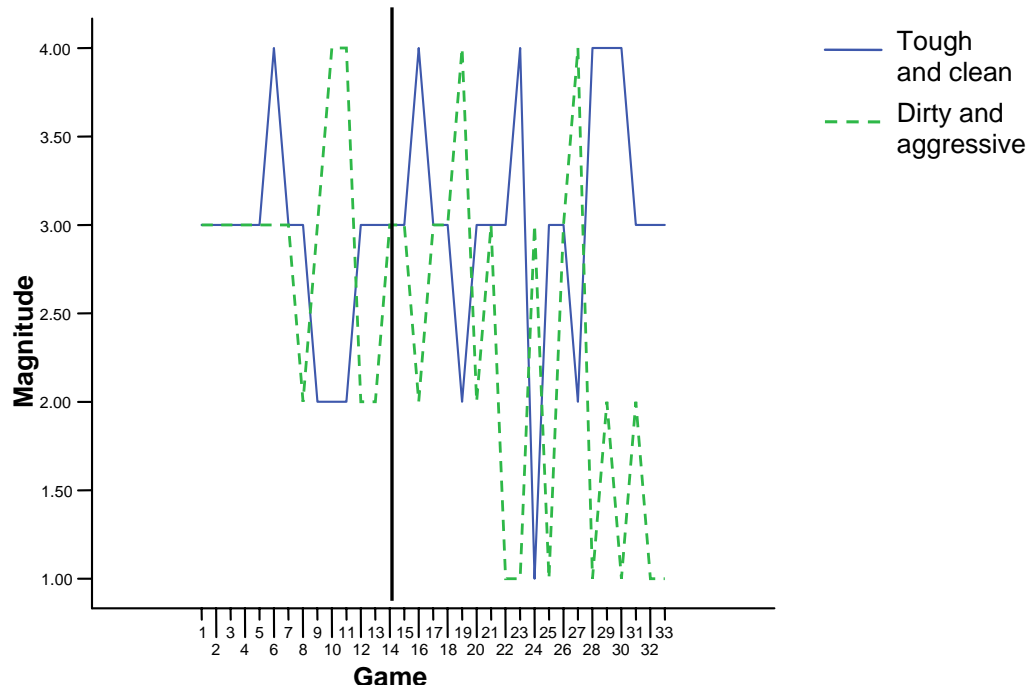


Note: Ability to be emotionally tough in adverse situations was rated on a scale of 1 = unable, 3 = sometimes, 5 = always.



Figure 14

*Participant 3 Self-Report of Magnitude of Tough and Clean and Dirty and Aggressive Play*



Note: Tough and clean play was rated on a scale of 1 = not tough and clean to 5 = much more tough and clean. Dirty and aggressive play was rated on a scale of 1 = much less aggressive to 5 = much more aggressive.

and during the playoffs. This was associated with a higher level of emotional toughness as well (see Figure 13). Therefore, it seems P3 was beginning to enhance his emotional toughness and tough and clean hockey when he needed to the most, during the playoffs. It would be interesting to have more games to see if this trend continued.

*Intercorrelations of dependent variables.* All variables on the post-game report logs were correlated to analyze any significant relationships. The results are tabled by phase and reported below (see Tables 24 and 25). Inspection of Table 24, correlations of

variables at baseline for P3, reveals very few associations besides significant relationships between negative emotions which is to be expected. Self-report of tough and clean hockey was negatively associated with anger ( $r = -.761, p < .01$ ) and embarrassment ( $r = -.675, p < .05$ ). Also of interest was that during the baseline phase P3 performed his best when he had low levels of anger ( $r = -.567, p < .05$ ). This finding was corroborated during the program phase (anger, performance  $r = -.527, p < .05$ ). P3 also had better performances during the program phase when other negative emotions and aggressive feelings were low (see Table 25). Of note was P3's better performances when he was not dirty and aggressive ( $r = -.502, p < .05$ ).

What is striking from the program correlation table is the number of significant correlations. Importantly, these relationships were all going in the directions the investigator would predict; negative emotions were negatively associated with tough and clean hockey, emotional toughness, and the skills of 3 R's, controlled breathing, and centering. Moreover, temper control was negatively associated with negative emotions. On the contrary, dirty and aggressive hockey was positively associated with negative emotions and aggressive feelings. Importantly, all three program skills were negatively associated with playing dirty and aggressive hockey. And, the 3 R's were positively associated with tough and clean play ( $r = .450, p < .05$ ) and emotional toughness ( $r = .449, p < .05$ ), thus providing support that these skills do enhance two very key constructs in the program.

Table 24

*Participant 3 Intercorrelation Matrix Baseline Phase*

| Variables                | 2     | 3    | 4     | 5    | 6     | 7    | 8    | 9   | 10   | 11     | 12   | 13     | 14    |
|--------------------------|-------|------|-------|------|-------|------|------|-----|------|--------|------|--------|-------|
| 1. Performance           | -.57* | -.38 | -.18  | -.20 | -.32  | -.14 | .01  | .04 | -.35 | .10    | -.36 | .37    | .54   |
| 2. Anger                 |       | .64* | .56*  | -.27 | .59*  | .58* | .04  | .02 | .57* | .34    | .537 | -.76** | -.21  |
| 3. Upset                 |       |      | .71** | -.30 | .42   | .22  | .47  | .08 | .22  | .18    | .37  | -.31   | -.175 |
| 4. Frustration           |       |      |       | -.54 | .78** | .53  | .13  | .19 | .32  | .45    | .13  | -.35   | -.13  |
| 5. Motivation            |       |      |       |      | -.57* | -.32 | .32  | .00 | -.40 | -.82** | -.16 | .37    | .41   |
| 6. Embarrassed           |       |      |       |      |       | .54  | -.06 | .51 | .32  | .66*   | -.19 | -.68*  | -.27  |
| 7. Urge to Harm          |       |      |       |      |       |      | -.35 | .06 | .40  | .49    | .14  | -.39   | -.08  |
| 8. Emotion Control       |       |      |       |      |       |      |      | .31 | -.18 | -.41   | -.05 | .04    | .28   |
| 9. Control Temper        |       |      |       |      |       |      |      |     | -.41 | .29    | .12  | -.39   | .160  |
| 10. Attack Opp.          |       |      |       |      |       |      |      |     |      | .12    | .10  | -.37   | -.540 |
| 11. Frustrated Want Harm |       |      |       |      |       |      |      |     |      |        | .47  | -.52   | -.29  |
| 12. Dirty Aggressive     |       |      |       |      |       |      |      |     |      |        |      | -.51   | -.28  |
| 13. Tough Clean          |       |      |       |      |       |      |      |     |      |        |      |        | .26   |
| 14. Emotion Tough        |       |      |       |      |       |      |      |     |      |        |      |        |       |

Note: \*\*p &lt; .01 \*p &lt; .05

Table 25

*Participant 3 Intercorrelation Matrix Program Phase*

| Variables                | 2     | 3     | 4      | 5     | 6      | 7      | 8    | 9      | 10    | 11    | 12     | 13     | 14     | 15     | 16     | 17     |
|--------------------------|-------|-------|--------|-------|--------|--------|------|--------|-------|-------|--------|--------|--------|--------|--------|--------|
| 1. Performance           | -.53* | -.52* | -.67** | .31   | -.72** | -.72** | -.09 | .53*   | -.28  | -.48* | -.50*  | .52*   | .69**  | .37    | .44    | .24    |
| 2. Anger                 |       | .92** | .88**  | -.47* | .76**  | .53*   | -.39 | -.58** | .54*  | .38   | .56*   | -.41   | -.44   | -.36   | -.60** | -.53*  |
| 3. Upset                 |       |       | .79**  | -.45* | .69**  | .47*   | -.34 | -.60** | .44   | .31   | .59**  | -.41   | -.46*  | -.31   | -.53*  | -.55*  |
| 4. Frustration           |       |       |        | -.39  | .77**  | .80**  | -.25 | -.71** | .63** | .68** | .66**  | -.68** | -.50*  | -.47*  | -.65** | -.41   |
| 5. Motivation            |       |       |        |       | -.22   | -.09   | -.24 | .35    | -.15  | -.05  | -.17   | .20    | .10    | .02    | .28    | .14    |
| 6. Embarrassed           |       |       |        |       |        | .59**  | -.23 | -.61** | .31   | .48*  | .45*   | -.41   | -.68** | -.21   | -.37   | -.32   |
| 7. Urge to Harm          |       |       |        |       |        |        | -.05 | -.47*  | .64** | .85** | .46*   | -.60** | -.53*  | -.58** | -.52*  | -.08   |
| 8. Emotion Control       |       |       |        |       |        |        |      | .07    | -.23  | .03   | -.14   | .02    | .30    | .33    | .28    | .34    |
| 9. Control Temper        |       |       |        |       |        |        |      |        | -.29  | -.48* | -.71** | .73**  | .27    | .19    | .36    | .31    |
| 10. Attack Opp.          |       |       |        |       |        |        |      |        |       | .51*  | .51*   | -.34   | -.32   | -.65** | -.69** | -.26   |
| 11. Frustrated Want Harm |       |       |        |       |        |        |      |        |       |       | .36    | -.66** | -.39   | -.54*  | -.367  | -.09   |
| 12. Dirty Aggressive     |       |       |        |       |        |        |      |        |       |       |        | -.60** | -.27   | -.55*  | -.73** | -.65** |

| Variables                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14  | 15   | 16    | 17    |
|--------------------------|---|---|---|---|---|---|---|---|----|----|----|----|-----|------|-------|-------|
| 13. Tough Clean          |   |   |   |   |   |   |   |   |    |    |    |    | .40 | .45* | .45*  | .41   |
| 14 Emotion Tough         |   |   |   |   |   |   |   |   |    |    |    |    |     | .47* | .40   | .34   |
| 15. 3 R's                |   |   |   |   |   |   |   |   |    |    |    |    |     |      | .81** | .54*  |
| 16. Control Breath       |   |   |   |   |   |   |   |   |    |    |    |    |     |      |       | .62** |
| 17. Centering            |   |   |   |   |   |   |   |   |    |    |    |    |     |      |       | —     |
| Note: **p < .01 *p < .05 |   |   |   |   |   |   |   |   |    |    |    |    |     |      |       |       |

*Hypothesis 2: Following Program Implementation Participant 3 will Exhibit Fewer Aggressive Acts*

The second hypothesis asserted that P3 would reduce his observed aggressive behavior following program implementation. Table 26 provides the frequency breakdown of aggressive acts viewed in the baseline and program phases. What is first apparent is the fewer number of acts per game exhibited by P3 in the program phase. One must be aware that two fewer games were viewed in the program phase. A habit P3 had developed over the years was to punch or push someone off of him after a hit. He had received penalties for roughing because of this behavior. As discussed in the program notes he was able to reduce the frequency of this behavior. This is supported by the reduction of roughing acts from 20 to 12.

*Major and minor aggression.* The aggressive behaviors in Table 26 can be categorized into major and minor aggressive acts. Acts categorized as major aggressive and committed by P3 are italicized in the table. It is important to note that major aggression in this study is not equivalent to major penalties in hockey. During the baseline period P3 committed 27 major aggressive acts in 12 games (2.25 per game). During the program he committed 17 major aggressive acts in 10 games (1.70 per game) thus demonstrating a deduction in the most inappropriate forms of aggression. These results may provide insight into P3's perception that he was less aggressive in the program period. He was able to reduce the most aggressive forms of aggression. Unfortunately, minor aggressive acts held somewhat constant throughout the study (26

Table 26

*Participant 3 Frequency Breakdown of Aggressive Acts*

| Aggressive Acts               | Baseline  | Program   | <i><b>Total</b></i> |
|-------------------------------|-----------|-----------|---------------------|
| Clipping (Clip)               | 0         | 0         | <b>0</b>            |
| <i>Cross-checking (CC)</i>    | 3         | 2         | <b>5</b>            |
| High-sticking (HS)            | 2         | 4         | <b>6</b>            |
| Pushing (PU)                  | 5         | 3         | <b>8</b>            |
| <i>Charging (CH)</i>          | 0         | 0         | <b>0</b>            |
| <i>Roughing (Rgh)</i>         | 20        | 12        | <b>32</b>           |
| <i>Boarding (B)</i>           | 0         | 0         | <b>0</b>            |
| Grabbing (G)                  | 0         | 0         | <b>0</b>            |
| Slashing (SL)                 | 19        | 15        | <b>34</b>           |
| <i>Check from Behind (CB)</i> | 2         | 1         | <b>3</b>            |
| <i>Elbowing (EL)</i>          | 0         | 1         | <b>1</b>            |
| <i>Kneeing (KN)</i>           | 0         | 0         | <b>0</b>            |
| <i>Kicking (KI)</i>           | 0         | 0         | <b>0</b>            |
| <i>Fighting (FG)</i>          | 0         | 0         | <b>0</b>            |
| <i>Spearing (Sp)</i>          | 2         | 1         | <b>3</b>            |
| Tripping (TR)                 | 0         | 0         | <b>0</b>            |
| <b>Total</b>                  | <b>53</b> | <b>39</b> | <b>92</b>           |

Note: There were 12 games in the baseline and 10 games in the program period. Not all possible aggressive behaviors are included in table due to space restrictions. Italicized rows indicate major aggressive acts.

minors at baseline, and 22 in the program phase). The frequent minor aggressive acts may have masked the improvements P3 made in reducing major aggressive acts.

*P3 aggressive acts per game and critical incidences/retaliations.* Inspection of Table 27 illustrates minimal improvements in mean aggressive acts (M baseline = 4.42, M program 3.90) and percentage retaliation (17.70% at baseline, 13.73% at program phase). Therefore, one would decipher from this results that P3 did not achieve his goals to retaliate less and play tough and clean hockey. Inspecting Figure 15, however, can shed some light on these results.

Table 27

*Participant 3 Aggressive Acts by Phase of Study*

|               | Aggressive | Mean       | Critical   |              | Percent     |
|---------------|------------|------------|------------|--------------|-------------|
| Study Phase   | Acts       | Aggression | Incidences | Retaliations | Retaliation |
| Baseline      | 53         | 4.42       | 45         | 8            | 17.70%      |
| Program       | 39         | 3.90       | 51         | 7            | 13.73%      |
| Season Totals | 92         | 4.18       | 96         | 15           | 15.63%      |

Note: In the baseline 12 games were viewed, in the program phase 10 games were viewed.

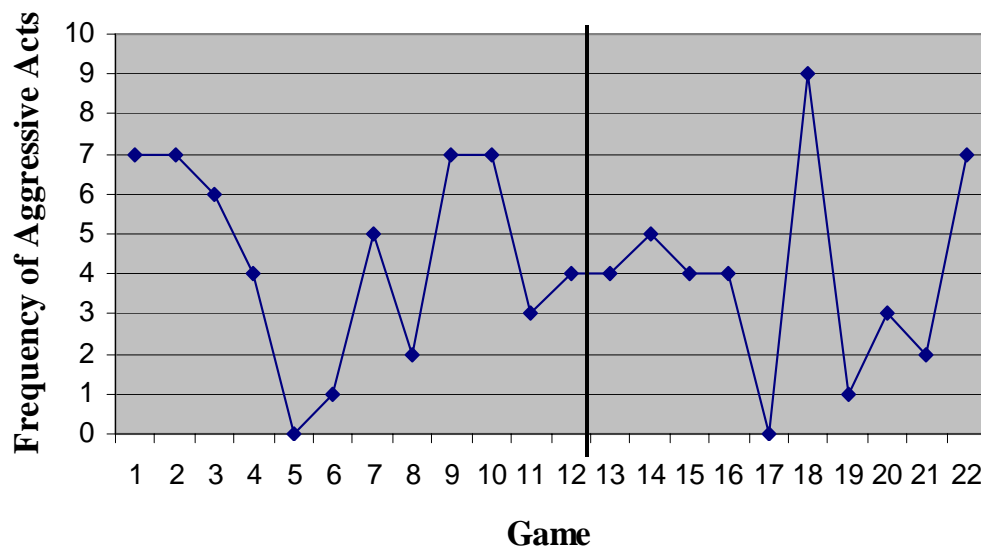
Visual inspection of Figure 15 illustrates P3's fluctuating aggressive behavior. His aggressive behavior was nearly stabilized the three games prior to the program, but the seven aggressive acts in game 10 were approximately 2.5 acts above the mean (the stabilization criteria was two acts above or below the mean for the three games prior to the program's implementation). His aggressive behavior did stabilize through Game 16



and then began to fluctuate greatly. Hence, an immediate effect with the program being implemented was not observed and one cannot suggest that P3 was becoming more aggressive in the games prior to the program.

Figure 15

*Participant 3 Aggressive Acts per Game, Baseline and Program Phases*



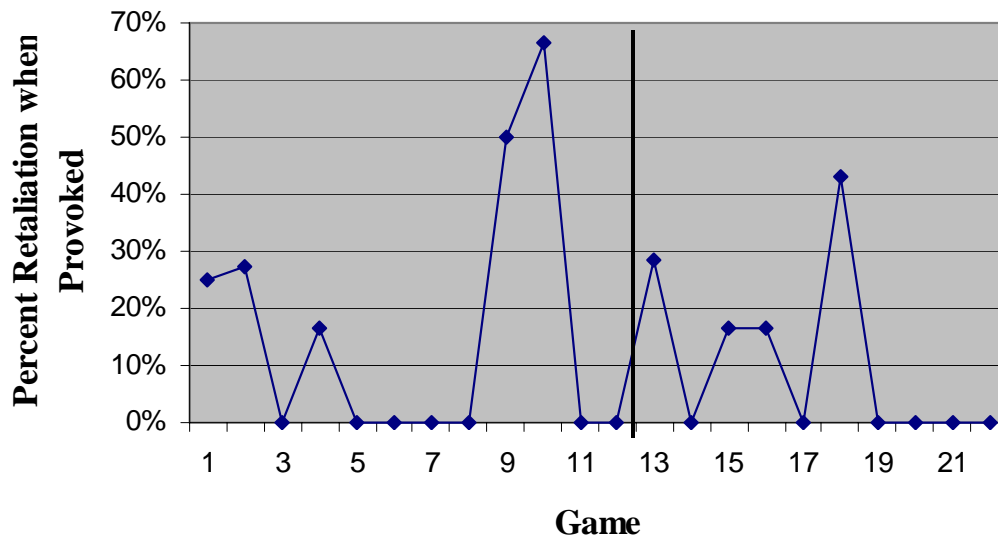
Note: Program phase began after the twelfth game (denoted by full line).

Effect sizes calculated for P3's change in behavior were not astounding. MBLR revealed an 11.8% behavior change ( $[(4.42-3.90)/4.42(100) = 11.8\%]$ ) and PND could not be calculated because P3 had a zero aggression game in the baseline. The PZD effect size of behavior suppression noted a 16.7% suppression of aggression during the program (i.e., first zero-game at game 17, no more zero-games occurred, then  $1/6 = 16.7\%$ ). Therefore, small effect sizes were found for P3.

Reviewing P3's percentage of retaliations when provoked also does not demonstrate much change in behavior (see Figure 16. Moreover, a depiction of P3's frequency of retaliations showed that his retaliatory behavior was not stable (see Figure 17). However, one finding is very important. P3 did not retaliate in the last four games of the season, this time period included playoffs. PZD revealed five zero aggression games starting at game 14 leading to a 66.7% suppression of aggressive behavior. This corresponds with the enhanced emotional toughness and tough and clean hockey P3 reported in the last five games of the season.

Figure 16

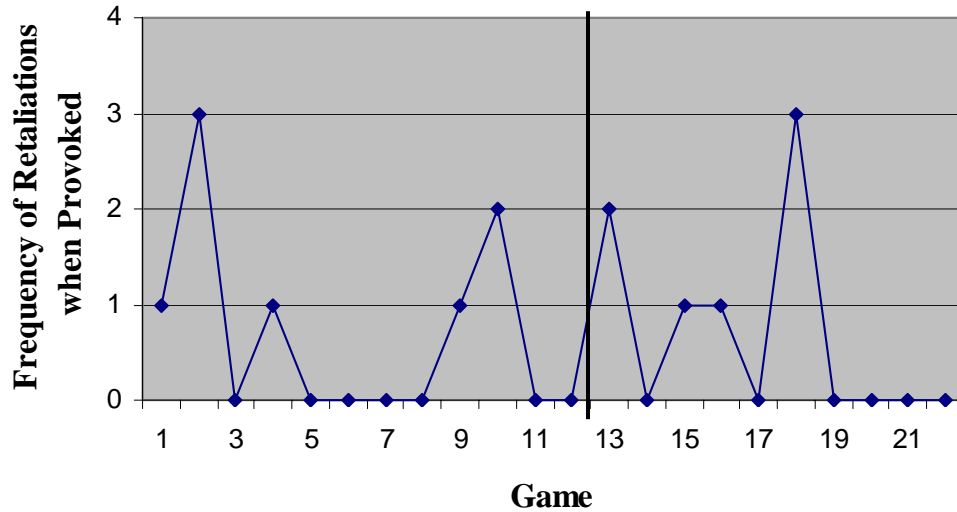
*Participant 3 Percentage of Retaliations to Being Provoked (Critical Incidences)*



Note: Program phase began after the twelfth game (denoted by full line).

Figure 17

*Participant 3 Frequency of Retaliation to Being Provoked (Critical Incidences)*



Note: Program phase began after the twelfth game (denoted by full line).

*Participant 4*

*Background.* P4 was a 14 year old Bantam player who regularly played defense. P4's father, J, video recorded many of the games for the study. He and P4's mother were separated, and according to J and P4 she did not want to help at times with P4's transportation and getting him to practice. This was the only case of the four where the parents were not in the same household. At this time the investigator met once with the mother, and she was at first hesitant and skeptical of the program, but once the program was explained to her she was enthused about it. J felt this program would help P4 and was excited about the prospects of it immediately. The coach, K, was highly influential in getting him to join.

P4 seemed to be somewhat shy and quiet at first, but this changed as he got to know me. He talked during sessions and asked questions, but almost seemed preoccupied by other things at times. During meetings P4 was easily distracted and asked questions off topic “such as do you know...” or “can we play basketball in here?” That being written, the investigator felt P4 was very thoughtful at times (especially when talking about past stories) and had a good perspective on his youth hockey career so far (as evidenced by the interview). His honesty was refreshing; he admitted to being very aggressive earlier in his career and he wished to not gain a reputation for being “dirty” because other coaches may not want you on their team later on. Of the four in the program, P4 was the toughest case because the investigator did not always feel he totally bought-in to the program (as of January 17, 2005). He said he did, and felt the program would help, but it was with some hesitation. Moreover, P4 had not been as strong with the first at-home activity (i.e., did it in the car while doing homework, and only came up with three behaviors as was supposed to have five). The investigator had to monitor his compliance closely.

In P4’s pre-program interview, he said he was strong, physical and played the body well, had speed, a decent shot, and passed well. Thus, he considered himself an all-around player that handled his emotions okay, and tried really hard. P4 wanted to improve in not retaliating to being hit because he wanted to avoid trouble (i.e., getting penalties, phone call complaints from other parents). Many times throughout the program it seemed he was almost more concerned with the consequences of his aggressive play for him not for others. P4 said in the pain exercise that he felt bad after the game if he got an unsportsmanlike or got into trouble.

In P4's perception, dirty and aggressive hockey was intending to hurt someone. He remarked that it usually occurred when players were having a bad day such as losing the game and therefore gave up and just wanted to "headhunt." P4 said checks from behind usually occur in this situation. In his experience there was an increase in aggression when you are losing. In addition, P4 had experienced much aggression because he was asked to be an enforcer earlier in his career. With those previous coaches if someone hit you hit you hit them back. P4 said hitting back or being aggressive used to be fun until the referee penalized you. However, he talked about not doing that anymore. Part of the reason is that his current coaches make them skate extra for dirty and aggressive play, as well as yell at them, and bench them. He was implored by coaches to play tough and clean hockey and to do not do anything he will regret. It appears P4's history was that he was taught to be aggressive, reinforced for it, and now he was learning a new perspective on the game of hockey from his current coaches. Initially in this program, he just wanted to play and stay out of trouble which has determined his view on aggression, meaning that he avoids aggression not necessarily out of empathy or morality but mainly based on getting more playing time. My goal was to help P4 see why aggression is morally wrong and how playing tough and clean is more effective. Otherwise, if he went to a different coach in the future that is lax on aggressive play or reinforces it he may fall back into his old habits of being dirty because he had not taken a perspective that aggression is not legitimate.

In P4's perception his parents did not condone aggressive play and in fact expressed that it was not a smart move and that P4 was better than that. They also reinforced him

for being a team captain and fulfilling this role by pulling other players out of retaliatory situations. Finally, the message was “go get them – go play hard, don’t be dumb.” P4 believed his teammates did not reinforce aggressive play.

Interestingly, when P4 was asked what type of player exemplified dirty and aggressive play he picked a teammate (he said “or at least what he used to be”) who was known for having a temper and playing aggressively. He felt a dirty player tried to hurt others and allowed his temper get the best of him.

P4 reported that he was aggressive when someone came at him or when losing. In fact, he felt it was okay to be aggressive if things were going bad (when you’re losing) and to stick up for a teammate. He also believed it was acceptable to take a player out of the game if he deserved it, meaning he was getting away with lots of dirty play and was not penalized, because this happened to him. Therefore, he legitimized aggression in certain situations (such as times when he feels he or his teammates are being taken advantage of by opponents), most likely due to the practices of the previous coaches who reinforced aggression. This was an issue to work on.

*Program notes.* Upon starting the program more was learned about P4’s history as an aggressive player, including a time when he went after another player, missed, separated his shoulder, and then a bench clearing brawl ensued. It seemed at times P4 thought it was cool to show your toughness by playing overly physical or aggressive. P4 fluctuated from legitimizing aggression to saying there were no positive benefits gained from being aggressive during the pro’s and con’s of aggression exercise. Due to his legitimization of aggression mentioned earlier, it made the investigator think that maybe he was

responding in a socially desirable manner. It appeared that he still had a part of him that believed it was cool to knock someone out, but now the punishments were much greater than any rewards. My goal was not to paint P4 as a vicious player, only one who retaliated because of his 'eye for an eye' level of morality, legitimization of aggression in hockey, and previous coach reinforcement of aggressive play. He expressed a desire to clean up his game and be tough and clean, however, it was mainly for the purposes of moving up the ranks of hockey (nothing wrong with this, but he should have greater empathy for others; he did say he felt bad if someone gets badly hurt). During the stick profile exercise where players differentiate between aggressive and tough and clean behaviors, P4 talked about how tripping was stooping to your opponent's level, fighting was having no temper control, and checking from behind happened when you were mad or it sometimes it was unintentional.

In the emotional value exercise in Session 2, P4 did not see any value to negative emotions. The investigator needed to work with him to make sure he understood the benefits of anger, frustration, etc. P4 stated he was dirty and aggressive when he was upset and frustrated. He continued on to say that he would lose his temper and give up when 'pissed and upset.' Specifically P4 said, "You shut down... Give up hope when you play dirty because you lose your temper... your pretty much pissed and telling yourself that you are done."

The controlled breathing did not work for him at first because the investigator was counting the rate of inhalation and exhalation, but when he counted for himself it went better. P4 seemed edgy doing it, and kept his eyes open during both trials. He felt

controlled breathing could probably help him. He picked the breathing word “chill.” He needed to be continually reminded why we were doing the program because he struggled to remember what we covered in the second meeting. Surprisingly his father, J, said to me following the 2<sup>nd</sup> meeting that he felt the program was making a difference already.

P4 came to the third session without doing the controlled breathing twice per day (i.e., he did it only once per day). He did mention that it helped him some by relaxing him, but not always (if tension or worries were too high). P4 tried it after losing a game where he was on the ice for a bunch of goals (he said his teammate was yelling at him, even when his teammate was out of position). He did not think it worked following this game. P4 described his hot button as times when a player was trying to hurt other people, and this dirty player continued to do it and did not stop. The thought he generally has in this hot button situation was “wait, it will come back” meaning someone will repay the dirty player. P4 did a great job on the refuting and replacing exercise and was very decisive about his first R – ‘relax.’ We had a very good, mature discussion about when a player tries to hurt you and not stooping to their level. In retrospect, P4 was the hardest for the investigator to work with because he was not always focused, and was very interested in playing basketball. It was concerning that he may just be giving the right answers, but his behaviors would not be change. To assist in removing distractions and enhancing P4’s focus, a focusing activity was implemented at the beginning of the session, and sessions were kept active and moving.

P4 said he had not really been using the first R between Sessions 3 and 4. He said he may have when someone hit him, but was not sure. Most of the time his controlled



breathing was good, but sometimes it was bad, especially when tired and he was distracted. He was highly distracted by a bad grade on a report card. He was convinced that his father would blow up at him, so he was avoiding showing it to his father. P4 did not experience any hot buttons, however, he did not retaliate to a high stick he that he received. In Session 4, P4 described his centering practice as pretty good, because it reduced some tension and got his mind focused. He also believed centering could be used at the end of periods, warm-ups, at which time it was emphasized how it could be used during games. He wanted to feel strong and balanced in hot buttons situations and focus on scoring or making a good pass. P4 mentioned he could practice the 3 R's he selected of 'relax', centered breath, and 'let's go' by walking through and playing it in his head. He felt the visualization practice went well even though he opened his eyes and looked at the clock and did not see his hot button situation. P4 did visualize his 3 R's successfully. He was checking the clock because his mother needed him to leave by a certain time (less than the allotted time frame). This was one example of P4 having trouble focusing during sessions. Finally, relative to centering and the running and centering exercise, he said when he was short of breath he liked to take quick, shallow breaths and then he could follow up with a centered breath. The role play of the 3 R's went well. It was still a concern that he would not use the program skills in games. The week leading to the next session should be a litmus test of his commitment.

In Session 5, P4 arrived 30 minutes late because he was at a basketball tryout. He was exhausted and we had to stop midway through the session. The second half of the session (from energy section on) was completed three days later with a review of the last meeting

being conducted. P4 was still not doing the logs, but did use his centering on the bench. He said it was successful in decreasing his tension. In hot button situations, he tried his 3 R's but they did not work. It did work in practice and he scored a goal after he did the 3 R's. The visualization was not always successful for P4 as he sometimes saw his hot button, and other times he did not. We talked about focusing and slowing himself down when attempting to visualize. In the session we practiced visualizing after centering. The first time P4 said he was unable to see anything. So, he was asked to slow down and discuss a hot button situation that happened to him recently, in detail. P4 then centered and visualized again with success. In his 3 R's practice he switched his first two R's sometimes, which it was suggested that he probably would do them simultaneously on the ice anyway (i.e., "relax" and center). P4 was struggling to remember his steps and use the 3 R's in a game because he was so focused on the game. The investigator would also add that part of the issue was due to his lack of focus during sessions and less than stellar effort on the at-home activities. We decided in hot button situations he needed to calm down and think about his 3 R's (he sometimes was out of control). Thus, it was emphasized to him how important it was to walk through his 3 R's and practice it. Relative to energy and stress, P4 felt his optimal energy level was 84 degrees. It was noted and P4 was cautioned about how being that fired up can be good, but you are walking a fine line to being emotionally out of control and aggressive. He had no stressful situations in hockey, but felt that a bad day at school stressed him a great deal. It was emphasized how good he could be if he maintained his discipline on the ice.

In Session 6, much was the same with P4. He was still unfocused at times, was rushing to leave in an hour, and did not have his logs completed. He felt centering was going fine as were his 3 R's – he was “remembering the steps more.” Relative to centering it was stressed that P4 should take deeper breaths and slow down; he seemed to be rushing it. It was also emphasized during the role play of the 3 R's that he needed to use his 3 R's immediately instead of waiting until he went to the bench (as he did in previous game) because he sometimes responded with an immediate retaliation. The video review went okay, P4 was challenged about his aggressive behaviors and he admitted that they were dirty and served no purpose. It was stressed that he needs to eliminate it from his game, while doing the clean checks that we also watched. It appeared that this was the most helpful portion of the meeting. It was also discussed that P4 should keep his hands and elbows down when checking, and not use his stick on people. We discussed the fact that even if he gets away with it, he will get a dirty reputation and other players will be more likely to come after him. The imagery section did not go as well, P4 was in a hurry. During imagery he did not focus very well as he looked at the clock again and responded to me verbally when the imagery script was recited. The program investigator felt the need to be more demanding of P4 relative to activities and gaining commitment. Sometimes it was as if he was going through the motions.

In Session 7, P4 was asked straight up if the program was changing his behavior. He said it was “a little bit, (I) don't get upset as easily.” This was borne out in his frequency of retaliation which was decreasing. He had just one hot button in the previous week or

so, after a goal versus (Team X) he calmed himself down because he needed to “do something important” at the end of the game. He relayed that the 3 R’s are getting him relaxed and refocused. In his two games for video review we had a really good game and a really aggressive one (versus Team X). Interestingly, in (city X) P4 felt he played well and was emotionally tough. Yet, he had numerous aggressive actions that were observed upon review of the game. A trend where he was more aggressive after he was aggressed upon was noticeable. P4 argued some of these aggressive behaviors convincingly yet he did have some aggression and frustration. We role played a check from behind and the first time he did not remember his 3 R’s. So, we practiced it four more times until it was fluid and accurate. Was this a breakthrough? He seemed more serious and focused on this walk through. He actually did the 3 R’s convincingly this time around.

P4 was surprisingly positive about his imagery based on the poor practice he had last week. He reported that it gave him some confidence relative to using his 3 R’s. However, he did not have his log again, and it seemed that he may be giving socially desirable answers. The self-regulation session was important, but was difficult. It was emphasized that using logs and practicing skills was necessary for the program to be successful and for P4 to become his own coach. The importance of goals was also stressed. In the scenarios of what he would do after the program ended, P4 did not provide very specific answers besides to “call you” (meaning the program leader). He believed he could continue to play tough and clean and practice his skills, but did he see how much more improvement was needed? It was even mentioned that more sessions than nine would be recommended if he did not commit to his goals. P4’s goals to remain emotionally tough

the next two weeks were to work hard, to play tough and clean – follow the program, practice the skills, not take too many penalties, and get along with people. Again, P4 was not always specific, but it was his first attempt at regulating his own behavior and practice. It was important to follow-up on his goals by reviewing his goal achievement and pushing him to meet his goals. P4 was making slight progress, but it was hampered by his lack of focus and unwillingness to complete all assignments. The program leader needed to be stricter about completing these assignments.

In Sessions 8 and 9, P4 talked about how he was achieving his commitment goals. He was working hard, playing tough and clean hockey – including practicing his skills, not taking penalties (only 1 in 5 games), and he was getting along quite well with others. P4 perceived his success to be based on the effort he was giving, something that may have been questionable earlier in the program. He did not have any hot buttons over the last two sessions, but did use his 3 R's successfully when someone hit him. P4 used the 3 R's in this situation because he did not want to retaliate and successfully refocused back to playing hockey. He was convinced he could use his 3 R's "during the game a little", remembered the steps at this point, and felt it was enhancing his focus (for instance, he used it in practice and was "thinking more clearly afterwards"). P4's 3 R's role plays were better the last two sessions. He was getting the steps correct, and was more focused during the activity. He adjusted his 3 R's to where the breath comes first, and he thinks "relax" at the same time or right after. In Session 9, P4 remarked that the 3 R's felt more comfortable and was now easier to use in games. He went on to say again that after using the 3 R's he would "think more clearly afterwards." Interestingly, P4 said he tended to

give his 3 R's a lower score on the post game report because he completed it right after the game. On the other hand, he completed his 3 R's log at least 30 minutes after the game, and was more calm and felt better about his 3 R's and skills (thus, being more positive about its effectiveness). P4, therefore, probably underscored his skills practice on the post-game report.

In Session 8, P4 said he was practicing his imagery a couple of times per week. Again, it was not logged, but he felt his imagery practice was successful. So, the investigator asked him to practice twice per day for Session 9 (which was two days later) and log it. Again, P4 felt he was imagining his hot buttons and 3 R's successfully, including seeing and feeling the image. He reported that this imagery was making him more confident, and he would continue to use it. The video review went okay in Session 8. It was emphasized that he needed to be more aware of when to use his emotional toughness skills. In the role play we discussed an alternative to punching someone in retaliation. That involved skating away with the hands down.

P4 felt he could use the skills learned in the program in class when someone asked a dumb question and he called them a "moron", to avoid a fight (he seemed to have a tough guy reputation at school even though he never hit anyone), and to not run his mouth at school. He asserted that in a situation where someone was antagonizing he would smile, do his 3 R's and walk away. This turned out to be his life skills goal. Finally, P4 still was legitimizing aggression at times when he said he did not slash someone, if he had he would made him feel it with a bigger slash.

The video review in Session 9 was brief, but it was important to reinforce a situation where he took several aggressive hits, absorbed them, and played well. Less than two minutes later his team scored. It was emphasized to him that his good decision-making and emotional toughness indirectly led to the goal because he did not take a penalty. He agreed with this. P4 decided that his goals to continue playing tough and clean hockey would be the same as his commitment goals from Session 7 with one addition – “try my best in whatever I do.” His strategies to achieve his goals were to talk to P2 about his goals because he would tell him “to keep at it”, tell his Mom so she could remind him, and put his goals up on the wall beside his Hooters calendar and Gretzky poster. Looking back, it seemed he may be relying too much on others for him to reach his goals, even after having constant discussions about being his own coach/teacher. However, given his weak level of self-regulation, soliciting help from others probably made good sense.

Towards the end of Session 9, we had a good discussion about what was good and bad about the program. As with the other players, he enjoyed the role plays, the on-ice practice, bucket exercise, and centering. P4 suggested that the program sessions were too long however, it was tough to keep his focus the whole time. He felt that the sessions should be reduced to 45 minutes, and the program leader needed to get to the important stuff quicker, and have more frequent sessions. Therefore, there was probably too much talking occurring in the sessions. Nonetheless, P4 believed the program helped him by making him more laid back, he was not receiving as many penalties, and he saw a big difference in himself and teammate P3 (he was less mad). Most importantly, P4 said he changed the way he viewed hockey. He used to think “hit people, go after people”, but

hockey was now about going for the puck while being physical. He felt he learned how to play tough and clean hockey and control his temper/emotions. Although P4 did not see the transfer until convinced, we discussed him using his skills in basketball such as centering when tired, or using the 3 R's when someone elbows him under the hoop. We also discussed how he would need to change the refocusing step to meet the situation. Overall, it was a very positive finish to the program. In fact, the program leader saw a change in P4, specifically he had more motivation to do well and practice the skills. Of the four players, P4 probably had the most room for change and maybe was not as far along in playing tough and clean as the others, but made great strides.

*P4 program summary interpretation.* This was the biggest challenge of the four participants. P4 was reinforced early on in his hockey career by other coaches to play aggressively. He was legitimizing aggression at times, and even talked about with an "it's cool" connotation. P4 struggled to complete his at-home activities or to log them, but improved a little as the program progressed. His commitment increased throughout the season to a point where he was making great improvements at the end of the season. P4 was no longer retaliating and he personally felt much more in control and disciplined. Part of the change involved the on-ice practice and the continual role plays and use of imagery to transfer the 3 R's to games. The 3 R's were beginning to work in games for him, and if he continues to practice it, the 3 R's could be very successful. Most importantly, P4 needs to improve his recognition of when to use the 3 R's and have a greater understanding of him self and why he plays aggressive at times. Although the program finished well, it was emphasized to him that he must continue to work at his



emotional toughness or he could regress back to pre-program behaviors. This will be key. A follow-up with P4 would be most beneficial because he may need more work on his emotional toughness and playing tough and clean hockey, next season. At times it seemed a large percentage of P4's aggression was instrumental, but there were other times where he seemed to "blow a gasket" and just take someone out. This was evidenced by a grouping of aggressive behaviors preceded by lengthy periods of no aggression. Using a performance enhancement tact with P4 was still the best way to have him stay committed to playing tough and clean hockey. It was mentioned to him that high school hockey coaches do not want players that take penalties. They want physical, disciplined players and if he wants ice time he will need to continue to use his skills. Finally, we may have had a breakthrough in Session 7 with the more intensely focused role play. From there on he was more motivated to practice the 3 R's. Moreover, his comments about a change in his perspective were insightful; he viewed hockey now as playing the puck, not going after opponents. This revealed that maybe his aggression was more based on a perspective that it was okay to be aggressive, to his credit he has changed to a tough and clean hockey perspective. In the end, it seems this was a case where off-ice issues may affect the program's influence on the player (i.e., perhaps parents separation creates compliance issues).

#### *Did Participant 4 Learn the Program and Use Program Skills?*

Throughout the program the investigator was concerned that P4 did not comprehend the content of the program and how it could be applied to his hockey and life. Although this concern is not totally alleviated, P4 made significant strides starting in Session 7,

which corresponded with more focused effort in his skills practice and goal setting. P4 did answer correctly all 20 questions on the program test. Table 28 below highlights P4's perceptions of the effectiveness of the program. He felt the program was effective in helping him control his emotions and be emotionally tough (ratings of 3.0 on a scale of 1 = very ineffective to 4 = very effective) (see Table 28). P4 felt the program was very effective in enhancing his ability to play tough and clean hockey and avoid dirty, aggressive hockey, relax under pressure, and play better hockey.

Table 28

*How Effective was the Program in Helping P4?*

| Effectiveness in Helping P4                                      | Rating |
|--|--------|
| Control emotions   | 3      |
| Play tough and clean hockey                                      | 4      |
| Avoid playing dirty and aggressive hockey                        | 4      |
| Relax under pressure   | 4      |
| Respond positively in a negative situation (emotional toughness) | 3      |
| Play better hockey   | 4      |

Note: Player rated effectiveness on a scale of 1 = very ineffective to 4 = very effective. (Question #1 from the program evaluation, see Appendix F)

It was also important to evaluate if P4 learned program skills, and the difficulty in doing so. From P4's self-report he learned each skill except imagery (see Table 29). This result is not shocking. The investigator reported P4's lack of focus while practicing the skill during sessions and his little attention to it at home. Furthermore, P4 reported that

imagery was the most difficult skill to learn and practice (ratings of 2 on a scale of 1 = very difficult to 4 = very easy), and found it not very useful (rating of 2 on a scale from 1 = not useful to 4 = very useful).

Table 29

*P4's Evaluation of the Process of Learning Program Skills*

| Player evaluation    | Did you learn<br>this skill? | How difficult<br>to learn? | How useful<br>was skill? | How difficult<br>to practice? |
|----------------------|------------------------------|----------------------------|--------------------------|-------------------------------|
| 3 R's Routine        | Yes                          | 3                          | 3                        | 4                             |
| Controlled Breathing | Yes                          | 4                          | 4                        | 4                             |
| Centering            | Yes                          | 4                          | 4                        | 4                             |
| Imagery              | No                           | 2                          | 2                        | 2                             |
| Visualization        | Yes                          | 4                          | 4                        | 4                             |

Note: This table corresponds to questions 2-5 on the program evaluation (see Appendix F). Difficulty was on a scale of 1 = very difficult to 4 = very easy. Usefulness was on a scale from 1 = not useful to 4 = very useful. Values are the reported score, not a mean.

Centering, controlled breathing, and visualization were considered by P4 to be easy to learn and practice and very useful (see Table 29). The 3 R's was not as easy to learn, and somewhat useful (ratings of 3).

P4 next reported his ability to use the program skills in different situations, in practice, games, and in life. Again, he felt the only skill he could not use in practices and games was imagery (see Table 30). In addition, visualization was not seen as applicable to life. Importantly, the 3 R's was applicable to all situations possibly tempering the

investigator's concern that P4 was not successfully learning when to use the 3 R's. P4 remarked that the 3 R's were beginning to work around Session 7 and felt that it relaxed and refocused him. Controlled breathing and centering were also successfully implemented by P4 in practices, games, and life. P4 had some initial success with controlled breathing reporting that it "if you were upset, it calms you down." However, he felt that at times these skills did not work because he was too involved in the game.

Table 30

*P4's Ability to Use Program Skills in Practice, Games, and in Life*

| Able to Use Skills   | In Practices? | In Games? | In Your Life? |
|----------------------|---------------|-----------|---------------|
| 3 R's Routine        | Yes           | Yes       | Yes           |
| Controlled Breathing | Yes           | Yes       | Yes           |
| Centering            | Yes           | Yes       | Yes           |
| Imagery              | No            | No        | No            |
| Visualization        | Yes           | Yes       | No            |

Note: This table corresponds to question #6 in the program evaluation (see Appendix F). Values are the reported score, not a mean.

P4 also reported the success of centering, the 3 R's, and controlled breathing when angry, frustrated, or feeling like he wanted to be aggressive (on a scale of 1 = extremely unsuccessful, 3 = successful 50% of the time, 5 = extremely successful) in his post-game reports. P4 reported that each of these skills was only successful 50% of the time which supports the discussions in sessions. The 3 R's was the lowest rated skill at 2.47, while controlled breathing and centering were rated at 3.00. A note of caution must be made

when interpreting these scores. P4 said during Session 8 that he was underreporting the success of his emotional toughness skills on post-game reports because he completed it immediately after the game and did not have time to think about how successful they really were.

*Hypothesis 1: Program will Enhance Participant 4's Emotional Control and Toughness*

To test Hypothesis 1, P4 was asked to complete post-game reports of his emotions and feelings after every game (see Appendices C1 and C2 for post-game reports). As the program progressed, it was hoped that P4 would have enhanced feelings of emotional control and emotional toughness. P4 completed 30 post-game reports during the season, 12 during baseline and 18 during the program. An inspection of Table 31 demonstrates very few changes from baseline to program. P4 did not report much enhancement of performance from baseline ( $M = 3.33$ ) to program ( $M = 3.50$ , on a scale of 1 = terrible, 3 = normal, to 5 = great), although in his program evaluation and reported that the program helped him play better hockey. This finding could be the result of P4's self-described underscoring immediately after the game.

Further inspection of Table 31 illustrates little change in his self-report of tough and clean play ( $M$  baseline = 3.11,  $M$  program = 3.28, on a scale of 1 = not tough/clean, 3 = normal level of tough/clean, 5 = much more tough/clean) and emotional toughness ( $M$  baseline = 3.17,  $M$  program = 3.44, on a scale of 1 = unable, 3 = sometimes, 5 = always). Thus, he felt that he stayed somewhat normal in his levels of tough and clean play and emotional toughness. Again, these scores are related to their own level on these variables and it may represent a lack of discrimination from the participant, or a feeling that he was

Table 31

*Participant 4 Post-Game Reports of Performance, Emotions, and Feeling States by Phase*

| Post-Game Reports                              | <u>Whole Season</u> |      | <u>Baseline</u> |      | <u>Program</u> |      |
|--|---------------------|------|-----------------|------|----------------|------|
|  | Mean                | SD   | Mean            | SD   | Mean           | SD   |
| Individual Performance                         | 3.43                | 0.77 | 3.33            | 0.89 | 3.50           | 0.71 |
| Angry  | 1.34                | 0.67 | 1.54            | 0.82 | 1.22           | 0.55 |
| Upset  | 1.43                | 0.77 | 1.42            | 0.79 | 1.44           | 0.78 |
| Frustrated                                     | 1.76                | 0.91 | 1.82            | 0.75 | 1.72           | 1.02 |
| Motivated                                      | 4.07                | 0.84 | 3.91            | 0.70 | 4.17           | 0.92 |
| Embarrassed                                    | 1.48                | 0.78 | 1.45            | 0.69 | 1.50           | 0.86 |
| Urge to Hurt Another Person                    | 1.23                | 0.43 | 1.33            | 0.49 | 1.17           | 0.38 |
| In Control of Emotions when Opponent was Dirty | 4.07                | 0.91 | 3.92            | 1.00 | 4.17           | 0.86 |
| Controlled Temper                              | 4.17                | 0.87 | 3.58            | 0.90 | 4.56           | 0.62 |
| Felt like Attacking Opponents                  | 1.73                | 0.94 | 1.83            | 1.19 | 1.67           | 0.77 |
| When Frustrated Wanted to Harm Another Person  | 1.77                | 0.73 | 2.00            | 0.85 | 1.61           | 0.61 |
| Dirty and Aggressive Play                      | 3.16                | 0.67 | 3.55            | 0.69 | 2.92           | 0.55 |
| Tough and Clean Play                           | 3.22                | 0.51 | 3.11            | 0.60 | 3.28           | 0.46 |
| Emotionally Tough                              | 3.33                | 0.48 | 3.17            | 0.39 | 3.44           | 0.51 |

|                                 | <u>Whole Season</u> |      | <u>Baseline</u> |    | <u>Program</u> |      |
|---------------------------------|---------------------|------|-----------------|----|----------------|------|
| Post-Game Reports               | Mean                | SD   | Mean            | SD | Mean           | SD   |
| Success of 3 R's                | 2.47                | 1.19 | *               | *  | 2.47           | 1.19 |
| Success of Controlled Breathing | 3.00                | 1.00 | *               | *  | 3.00           | 1.00 |
| Success of Centering            | 3.40                | 0.99 | *               | *  | 3.40           | 0.99 |

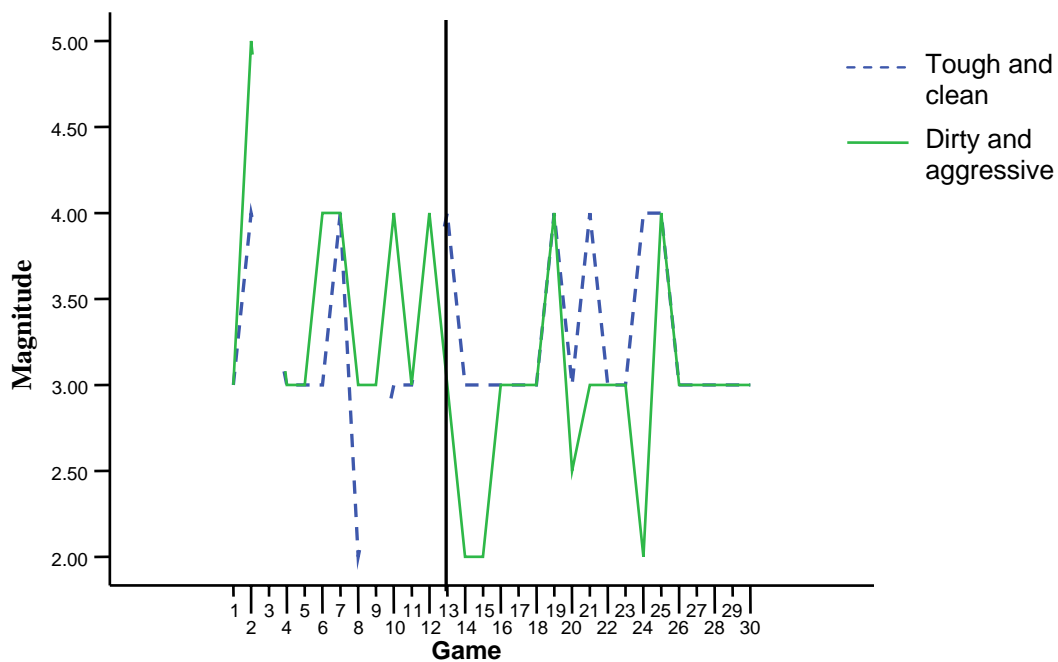
Note: Higher scores on negative emotions, aggressive feelings, and magnitude of dirty and aggressive hockey indicate a greater intensity or frequency of that variable. Baseline n = 12 Program n = 18. \*Scores not obtained because skills were not taught yet.

already emotionally tough and playing tough and clean hockey. The session notes do not support this last contention, P4 felt he needed to become more tough and clean. P4's ability to control his temper was enhanced from baseline ( $M = 3.58$ ) to program ( $M = 4.56$ , on a scale of 1 = not at all like me to 5 = exactly like me). P4 talked in Session 9 about being able to better control his temper thus supporting this finding. Finally, P4 felt that he reduced his dirty and aggressive play from baseline ( $M = 3.55$ ) to program phase ( $M = 2.92$ ). Thus, he perceived his dirty and aggressive play as going from above normal levels at baseline to just slightly below during the program. Figure 18 depicts P4's self-report of his tough and clean and dirty and aggressive play. What one should notice is that P4 had an immediate reduction in dirty and aggressive play with the start of the program. Moreover, he never dropped below a normal level of tough and clean hockey throughout the program. Unfortunately, P4's reports of dirty and aggressive play fluctuated throughout the program and then leveled off at normal for the last six games. Therefore, one cannot suggest that P4 was clearly less dirty and aggressive in his own

perception, although it is positive that he had scores below normal on dirty and aggressive play several times in the program phase.

Figure 18

*Participant 4 Self-Report of Magnitude of Tough and Clean and Dirty and Aggressive Play*



Note: Tough and clean play was rated on a scale of 1 = not tough and clean to 5 = much more tough and clean. Dirty and aggressive play was rated on a scale of 1 = much less aggressive to 5 = much more aggressive.

*Intercorrelations of dependent variables.* Correlations were analyzed on the dependent variables from the post-game report. The results of these intercorrelations are tabled by phase and presented on pages 185-187 (see Tables 32 and 33).

Review of the positive correlations (in Table 32) during the baseline phase provides little information. The exceptions were that emotional control ( $r = .857, p < .01$ ) and



Table 32

*Participant 4 Intercorrelation Matrix Baseline Phase*

| Variables                | 2    | 3     | 4    | 5    | 6    | 7     | 8     | 9    | 10   | 11    | 12    | 13   | 14   |
|--------------------------|------|-------|------|------|------|-------|-------|------|------|-------|-------|------|------|
| 1. Performance           | -.11 | -.34  | -.50 | .60  | .13  | -.28  | .86** | .65* | -.20 | .00   | -.10  | -.07 | .09  |
| 2. Anger                 |      | .88** | .34  | -.08 | -.48 | .62*  | .07   | .16  | .25  | .80** | .08   | .15  | -.03 |
| 3. Upset                 |      |       | .45  | .06  | -.33 | .78** | -.18  | -.12 | .37  | .67*  | -.13  | -.10 | -.25 |
| 4. Frustration           |      |       |      | -.23 | -.21 | .16   | -.45  | -.39 | .42  | .51   | .13   | -.27 | .45  |
| 5. Motivation            |      |       |      |      | .09  | .39   | .70*  | .56  | -.13 | .02   | -.70* | -.55 | -.29 |
| 6. Embarrassed           |      |       |      |      |      | -.43  | -.08  | -.03 | .17  | -.60* | .00   | .15  | .03  |
| 7. Urge to Harm          |      |       |      |      |      |       | -.12  | -.07 | .10  | .43   | -.20  | -.11 | -.32 |
| 8. Emotion Control       |      |       |      |      |      |       |       | .57  | -.01 | .32   | -.14  | .04  | .04  |
| 9. Control Temper        |      |       |      |      |      |       |       |      | -.41 | -.12  | -.20  | -.14 | -.04 |
| 10. Attack Opp.          |      |       |      |      |      |       |       |      |      | .54   | -.17  | .41  | -.13 |
| 11. Frustrated Want Harm |      |       |      |      |      |       |       |      |      |       | .00   | .07  | .00  |
| 12. Dirty Aggressive     |      |       |      |      |      |       |       |      |      |       |       | .70* | .69* |
| 13. Tough Clean          |      |       |      |      |      |       |       |      |      |       |       |      | .56  |
| 14. Emotion Tough        |      |       |      |      |      |       |       |      |      |       |       |      | —    |

Note: \*\*p &lt; .01 \*p &lt; .05

Table 33

*Participant 4 Intercorrelation Matrix Program Phase*

| Variables                | 2    | 3   | 4     | 5    | 6    | 7    | 8      | 9     | 10    | 11   | 12   | 13   | 14   | 15    | 16     | 17   |
|--------------------------|------|-----|-------|------|------|------|--------|-------|-------|------|------|------|------|-------|--------|------|
| 1. Performance           | -.15 | .11 | .12   | .32  | .05  | .33  | -.05   | .00   | .33   | -.07 | .34  | -.09 | .33  | .23   | .23    | .35  |
| 2. Anger                 |      | .30 | .12   | -.31 | -.25 | -.19 | .04    | -.04  | -.09  | .10  | .07  | -.26 | -.37 | .01   | -.24   | .05  |
| 3. Upset                 |      |     | .75** | .14  | .35  | .52* | -.38   | .07   | .75** | .14  | .43  | .13  | .07  | -.49  | -.69** | -.37 |
| 4. Frustration           |      |     |       | -.07 | .37  | .43  | -.69** | -.49* | .70** | .39  | .11  | -.08 | -.09 | -.53* | -.55*  | -.45 |
| 5. Motivation            |      |     |       |      | -.04 | .08  | .48*   | .45   | -.08  | -.09 | -.03 | .02  | .58* | .29   | .08    | .14  |
| 6. Embarrassed           |      |     |       |      |      | .27  | -.36   | -.22  | .45   | .06  | .09  | .07  | .00  | -.38  | -.34   | .02  |
| 7. Urge to Harm          |      |     |       |      |      |      | -.63** | .08   | .60** | -.21 | .21  | .39  | -.10 | -.49  | -.52*  | -.21 |
| 8. Emotion Control       |      |     |       |      |      |      |        | .59** | -.54* | -.21 | -.03 | -.12 | .49* | .67** | .58*   | .32  |
| 9. Control Temper        |      |     |       |      |      |      |        |       | -.08  | -.33 | .32  | .46  | .48* | .45   | .28    | .20  |
| 10. Attack Opp.          |      |     |       |      |      |      |        |       |       | -.04 | .49* | .28  | .10  | -.54* | -.45   | -.22 |
| 11. Frustrated Want Harm |      |     |       |      |      |      |        |       |       |      | -.02 | -.22 | -.17 | .03   | -.11   | -.48 |
| 12. Dirty Aggressive     |      |     |       |      |      |      |        |       |       |      |      | .33  | .35  | -.22  | -.22   | -.18 |

| Variables          | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14  | 15   | 16    | 17   |
|--------------------|---|---|---|---|---|---|---|---|----|----|----|----|-----|------|-------|------|
| 13. Tough Clean    |   |   |   |   |   |   |   |   |    |    |    |    | .19 | -.25 | .00   | .06  |
| 14 Emotion Tough   |   |   |   |   |   |   |   |   |    |    |    |    |     | .50  | .42   | -.03 |
| 15. 3 R's          |   |   |   |   |   |   |   |   |    |    |    |    |     |      | .72** | .26  |
| 16. Control Breath |   |   |   |   |   |   |   |   |    |    |    |    |     |      |       | .36  |
| 17. Centering      |   |   |   |   |   |   |   |   |    |    |    |    |     |      |       | —    |

Note: \*\*p < .01 \*p < .05

temper control ( $r = .645, p < .05$ ) were related to better performances. This finding was not repeated in the program phase of the study. In addition, dirty and aggressive hockey was significantly and negatively correlated with motivation ( $r = -.704, p < .05$ ). Dirty and aggressive hockey was positively correlated with tough and clean hockey ( $r = .700, p < .05$ ) and emotional toughness ( $r = .686, p < .05$ ). These interesting findings were not reproduced in the program phase and may represent a learning effect. P4 began to understand the differences between dirty and aggressive and tough and clean hockey, as well as what it means to be emotionally tough.

In the program phase more significant correlations existed, including the finding that temper and emotional control were negatively associated with frustration ( $r = -.685, p < .01$ , and  $r = -.490, p < .05$ , respectively). Furthermore, feelings of emotional control were related to less intense feelings of urge to harm an opponent ( $r = -.626, p < .01$ ). Emotional toughness, the 3 R's, and controlled breathing were all significantly related to emotional control (see Table 33). Finally, the success using the 3 R's was negatively associated with frustration ( $r = -.532, p < .05$ ) and a feeling of wanting to attack an opponent ( $r = -.537, p < .05$ ). It is possible that P4 was more successful with the 3 R's when he was emotionally in control, not frustrated or feeling like he wanted to attack an opponent, but the reverse could also be true – the 3 R's led to these feelings. Overall, the correlations from P4's post-game reports reveal the importance of emotional and temper control as possible mediators to emotional toughness, as well as emotional toughness and the 3 R's.

*Hypothesis 2: Following Program Implementation Participant 4 will Exhibit Fewer Aggressive Acts*

The second hypothesis suggested that P4 would reduce his observed aggressive behavior following program implementation. Table 34 provides the frequency breakdown of aggressive acts viewed in the baseline and program phases. Initially, one notices the much higher frequency of aggressive acts during the baseline phase (81 acts at baseline versus 49 at program phase). Only two more games were viewed during the baseline phase, so it is convincing that P4 was able to decrease his frequency of aggressive behavior.

*Major and minor aggression.* The aggressive behaviors exhibited by P4 were further categorized into major and minor aggression. Acts categorized as major aggressive are italicized in Table 34. From the table one can discern that P4 greatly reduced his roughing (41 baseline, 19 program), checking from behind (5-0), and elbowing behaviors (4-0). Moreover, P4 exhibited 55 major aggressive acts in 12 games during the baseline, a rate of 4.58 per game. In the program phase, P4 exhibited much less major aggressive behavior, 27 acts in 10 games (2.70 per game). Hence, P4 was able to greatly reduce the worst forms of aggression during the program. The video reviewers noticed that situations that would have led to exaggerated aggressive acts by P4 in the baseline phase, such as tackling or punching an opponent (coded as roughing), led to minor aggressive acts such as pushes or no aggressive act at all. Finally, P4 was exhibited fewer minor aggressive behaviors (17 in 10 games) during the program as compared to the baseline (26 in 12 games).

Table 34

*Participant 4 Frequency Breakdown of Aggressive Acts*

| Aggressive Acts               | Baseline  | Program   | <i><b>Total</b></i> |
|-------------------------------|-----------|-----------|---------------------|
| Clipping (Clip)               | 0         | 0         | <b>0</b>            |
| <i>Cross-checking (CC)</i>    | 3         | 6         | <b>9</b>            |
| High-sticking (HS)            | 3         | 4         | <b>7</b>            |
| Pushing (PU)                  | 3         | 4         | <b>7</b>            |
| <i>Charging (CH)</i>          | 0         | 1         | <b>1</b>            |
| <i>Roughing (Rgh)</i>         | 41        | 19        | <b>60</b>           |
| <i>Boarding (B)</i>           | 0         | 0         | <b>0</b>            |
| Grabbing (G)                  | 0         | 1         | <b>1</b>            |
| Slashing (SL)                 | 20        | 13        | <b>33</b>           |
| <i>Check from Behind (CB)</i> | 5         | 0         | <b>5</b>            |
| <i>Elbowing (EL)</i>          | 4         | 0         | <b>4</b>            |
| <i>Kneeing (KN)</i>           | 0         | 1         | <b>1</b>            |
| <i>Fighting (FG)</i>          | 0         | 0         | <b>0</b>            |
| <i>Spearing (Sp)</i>          | 2         | 0         | <b>2</b>            |
| Tripping (TR)                 | 0         | 0         | <b>0</b>            |
| <i>Total</i>                  | <b>81</b> | <b>49</b> | <b>130</b>          |

Note: There were 12 games in the baseline and 10 games in the program period.  
 Not all possible aggressive behaviors are included in table due to space restrictions.  
 Italicized rows indicate major aggressive acts.

*P4 aggressive acts per game and critical incidences/retaliations.* P4's reduction in major aggressive behavior is reflective of a general reduction of aggressive behavior from baseline (M = 6.75) to program (M = 4.90) (see Table 35, on page 191). This was the largest reduction in aggressive behavior found in the study. P4's percent retaliation also revealed marked improvement during the program. At baseline, he was retaliating 32.08% of the time, and upon implementation of the program he only retaliated 12.80% of times when provoked. Thus, the program appeared to assist P4 in reducing his aggressive behaviors and retaliating less to being provoked.

Table 35

*Participant 4 Aggressive Acts by Phase of Study*

|               | Aggressive | Mean       | Critical   |              | Percent     |
|---------------|------------|------------|------------|--------------|-------------|
| Study Phase   | Acts       | Aggression | Incidences | Retaliations | Retaliation |
| Baseline      | 81         | 6.75       | 53         | 17           | 32.08%      |
| Program       | 49         | 4.90       | 39         | 5            | 12.80%      |
| Season Totals | 130        | 5.91       | 92         | 22           | 23.90%      |

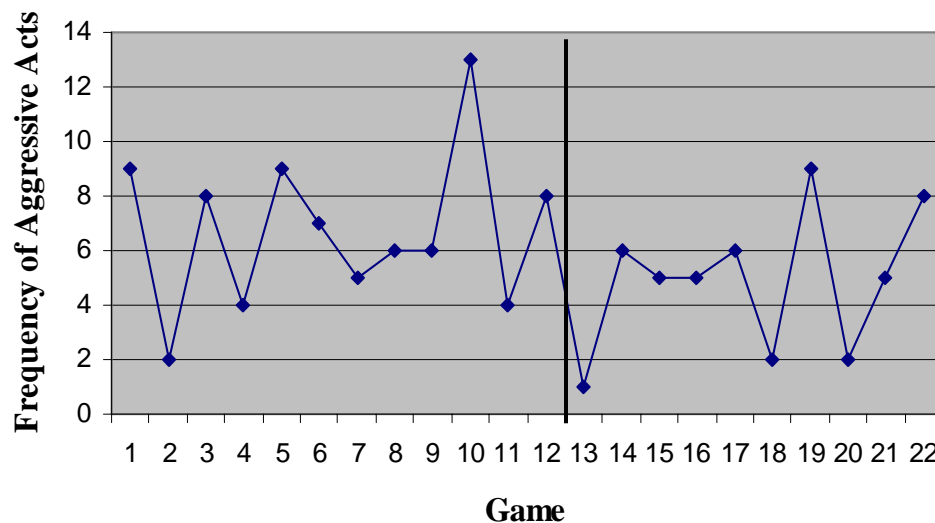
Note: At baseline 12 games were viewed, and 10 were viewed at the program phase.

Review of Figure 19 illustrates the P4's reduction of aggressive behavior. P4 exhibited an immediate drop in aggression upon program implementation from eight aggressive acts to one in game 13. However, the data were not stable in the last three games of the baseline phase because of Game 10 where P4 exhibited 13 aggressive acts. Without this highly aggressive game, P4's aggressive behavior would have stabilized.

Relative to effect size, MBLR revealed a 27.4% change in aggressive behavior which is considered poor ( $[(6.75-4.90)/6.75(100) = 27.4]$ ). The PND effect size was only .10 because only of P4's program data points did not overlap with his lowest baseline data point. Finally, PZD was 0% behavior suppression because P4 had no zero aggression games. Therefore, the effect was not particularly large.

Figure 19

*Participant 4 Aggressive Acts per Game, Baseline and Program Phases*



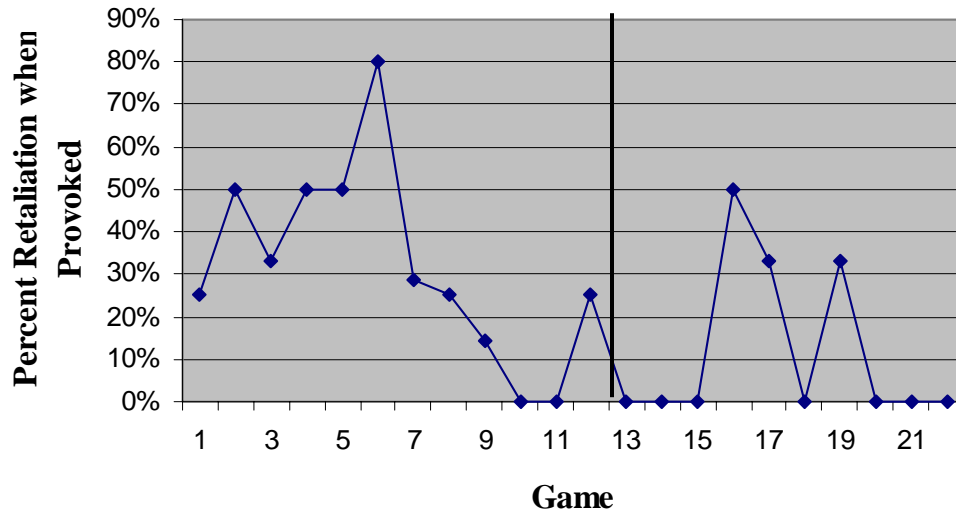
Note: Program phase began after the twelfth game (denoted by a bold vertical line).

As mentioned in P1's case, the problem with the overall assessment of aggressive behavior is that it does not account for critical times in a game where a player is provoked and would be more likely to respond aggressively. Analysis of these critical incidences provided evidence of P4's improvement in the program. Inspection of Figure 20 demonstrates a decline in P4's percent retaliation during the baseline form Games 7-



Figure 20

*Participant 4 Percentage of Retaliations to Being Provoked (Critical Incidences)*

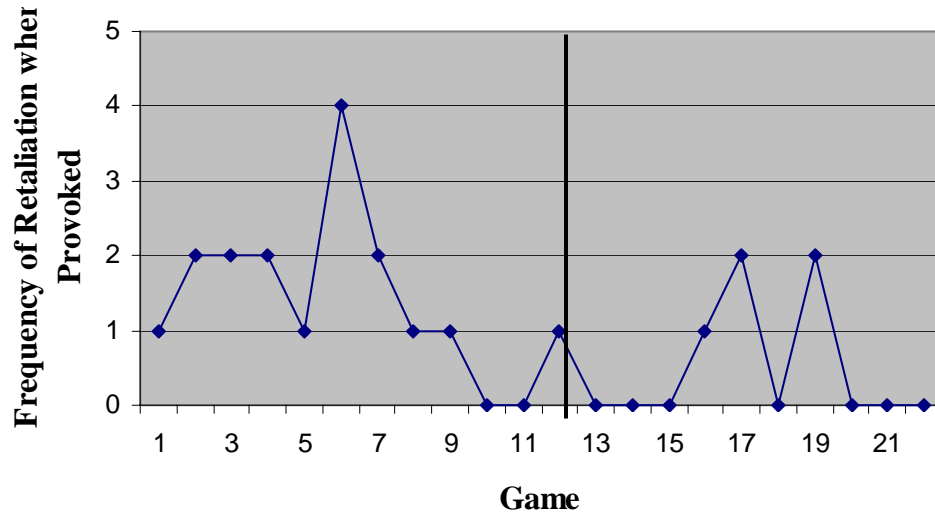


Note: Program phase began after the twelfth game (denoted by a bold vertical line).

11 and then a rise to 25% at game 12. At the start of the program, P4 immediately dropped back down to 0% retaliation for Games 13-15 and then had a sudden rise in Game 16 (50%). Hence, the percent retaliation was not particularly stable during the program. Figure 21 below provides a depiction of P4's frequency of retaliation which was much more consistent during the program. Relative to the size of the effect, P4 had seven zero aggression games leading to a PZD of 70%. This means that P4 retaliated 0% of the time in seven out of ten games starting with Game 13, a behavior suppression percentage of 70%. Therefore, he was able to retaliate much less often during the program phase.

Figure 21

*Participant 4 Frequency of Retaliation to Being Provoked (Critical Incidences)*



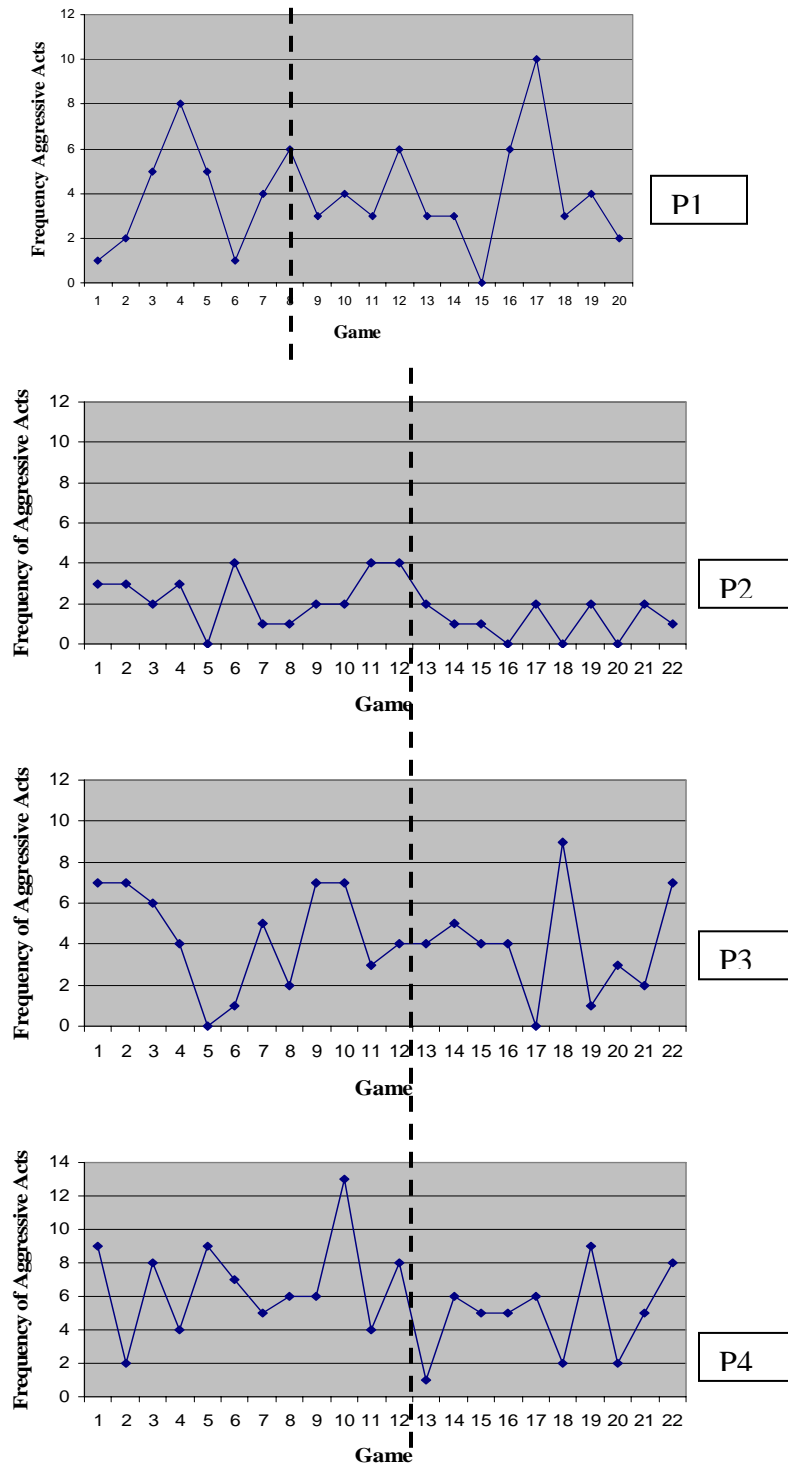
Note: Program phase began after the twelfth game (denoted by a bold vertical line).

*Comparison of Program Effects on Participants*

The single-subject design was also developed as a multiple-baseline design to be able to show generalizability in the program effect. If a decrease in aggressive behavior could be shown at the time the first player was receiving the program while other players did not have a decrease, and then subsequently the same thing happened as the program was implemented for each participant, then it would suggest the improvement was due to the program. Due to time restrictions, a staggered baseline could only be implemented between P1 and the three other participants. External validity can still be assessed by comparing P1 against P2, P3, and P4 (see Figure 22). Inspection of the time period where P1 had the program and P2, P3, and P4 were at baseline does not reveal a trend showing

Figure 22

*Mean Aggressive Acts Exhibited by Program Participants in a Hockey Season*



an effect by the program. Caution needs to be taken when interpreting these results because P1 played on a different team than P2, P3, and P4 and the x-axis unit games are not time equivalent. This means that P1 did not have his thirteenth game until January 9<sup>th</sup>, the fourteenth game for the other three participants. In addition, each participant has a different experience especially when looking between two different teams. The teams that P1 played may have been more or less aggressive than those played by the other three participants. Moreover, the investigator could not control other aspects of participants' lives that may influence their mood, affect, and cognitions inside the rink. Finally, it may require several sessions to begin to realize an effect from the program. Therefore, the window of time allotted to stagger baselines did not capture change in P1.

#### Purpose 2: Evaluation of the Effectiveness of the Playing Tough and Clean Hockey Program

Evaluation occurred not only prior to the data collection period, but also during and after. Specifically, data in the form of feedback and perspectives from participants, the investigator's reflections on the program sessions and the program as a whole, observations of games, and discussions with coaches and parents, as well as a program test and evaluation provided support for the Playing Tough and Clean Hockey Program's effectiveness.

#### *Did Participants Comprehend the Content of the Program?*

A program test was completed by each participant at the end of session nine. The test has 20 items covering the content of the program (located in Appendix E). All four participants correctly answered each question. Two questions were confusing because of

their wording (questions 1 and 18), and upon discussion with the three participants that missed both of these, it was the wording that caused them to select the wrong answer.

These two questions will be re-stated for subsequent programs.

*Did Participants Perceive the Program as Enjoyable and Beneficial to Their Development as a Hockey Player?*

The investigator's greatest concern was that players would not commit completely to the program. The investigator believed if they did commit, and the previous section details their commitment, the program could provide them many benefits as a player and a person. The main benefits were of course to assist them in playing tough and clean hockey, becoming more emotionally tough, and enhancing their hockey performance. A very beneficial side effect, albeit planned and discussed in the sessions, was the use of the program skills in life. From session notes very important on-ice and in-session events were gleaned that showed participants were successfully playing tough and clean hockey, using the skills, and demonstrating emotional toughness and control. These instances were detailed in the program notes for each participant. In this section, however, it is important to reiterate the social evaluation of this program.

All four participants felt very positive about the program. This can be determined from their comments in sessions and their program evaluations (see Appendix F). Overall, the four participants enjoyed coming to the sessions ( $M = 4.25$ , rated on a scale of 1 = not at all to 5 = very much), and all felt the program and the presenter were easy to understand. They rated the overall quality of the program and the instructor as "excellent" ( $M = 5.00$ , on a 1 = poor to 5 = excellent). Inspection of Table 36 highlights the

participants' beliefs that the program was very effective in each of the program objectives listed below. It is important to note that players felt the program was very effective relative to enhancing their hockey performances ( $M = 4.00$ ).

Participants were asked several questions about learning the skills taught in the program. Table 37 provides confirmation that the players felt they learned the five skills. Only one participant felt he did not learn imagery. Not surprisingly, the 3 R's was considered the most difficult skill to learn ( $M = 2.75$ ), yet it was only moderately difficult. Imagery, on the other hand, was somewhat easy to learn ( $M = 3.25$ ), but not as

Table 36

*How Effective was the Program in Helping Players*

| Effectiveness in Helping Players                                 | Mean |
|--|------|
| Control emotions   | 3.75 |
| Play tough and clean hockey                                      | 4.00 |
| Avoid playing dirty and aggressive hockey                        | 4.00 |
| Relax under pressure   | 3.50 |
| Respond positively in a negative situation (emotional toughness) | 3.75 |
| Play better hockey   | 4.00 |

Note: Four participants rated effectiveness on a scale of 1 = very ineffective to 4 = very effective. (Question #1 from the program evaluation, see Appendix F)

easy to practice ( $M = 2.75$ ). Centering was thought to be very useful ( $M = 4.00$ ), yet easy to learn and practice ( $M = 3.75$  and  $3.50$ , respectively). Finally, imagery and visualization were considered only "somewhat useful" ( $M = 3.00$  and  $3.25$ , respectively) most likely

because these skills were taught to players in the context of learning the 3 R's, not necessarily as performance enhancement tools.

Participants also indicated that certain skills were more or less easy to apply to practices, games, and in their lives. Centering, the 3 R's, and controlled breathing were considered most applicable to practices and games (see Table 38). On the other hand, participants were just as able to use imagery and visualization in their lives, or more able in the case of centering, which makes sense. Again, imagery and visualization were taught as off-ice skills, whereas the other three skills were integrated into practices and games from the outset of the program.

Table 37

*Player Evaluation of the Process of Learning Program Skills*

| Player evaluation    | Did you learn<br>this skill? | How difficult<br>to learn? | How useful<br>was skill? | How difficult<br>to practice? |
|----------------------|------------------------------|----------------------------|--------------------------|-------------------------------|
| 3 R's Routine        | 4 Yes                        | 2.75                       | 3.50                     | 3.00                          |
| Controlled Breathing | 4 Yes                        | 3.25                       | 3.50                     | 3.50                          |
| Centering            | 4 Yes                        | 3.75                       | 4.00                     | 3.50                          |
| Imagery              | 3Yes, 1 No                   | 3.25                       | 3.00                     | 2.75                          |
| Visualization        | 4 Yes                        | 3.50                       | 3.25                     | 3.00                          |

Note: This table corresponds to questions 2-5 on the program evaluation (see Appendix F). Difficulty was on a scale of 1 = very difficult to 4 = very easy. Usefulness was on a scale from 1 = not useful to 4 = very useful. N = 4.

Table 38

*Number of Participants Able to Use Program Skills in Practice, Games, and in Life*

| Able to Use Skills   | In Practices? | In Games? | In Your Life? |
|----------------------|---------------|-----------|---------------|
| 3 R's Routine        | 3 Yes         | 3 Yes     | 3 Yes*        |
| Controlled Breathing | 4 Yes         | 3 Yes     | 3 Yes         |
| Centering            | 4 Yes         | 4 Yes     | 2 Yes         |
| Imagery              | 1 Yes         | 2 Yes     | 3 Yes         |
| Visualization        | 2 Yes         | 3 Yes     | 3 Yes         |

Note: This table corresponds to question #6 in the program evaluation (see Appendix F).

\*Participant 1 said he would be able to use the 3 R's later in life; he just was not faced with a situation where he had to yet.

What should not be overlooked is how many of these participants have used the skills learned in the program in their lives. Specifically, participants were asked when they used the program skills in their lives outside of hockey. Participants listed such situations as before or during tests ( $N = 3$ ), getting along with a sibling, especially when competing in games at home ( $N = 2$ ), in school, if a fight were to occur, and in other sports such as basketball ( $N = 1$  for each item). Thus, transfer from hockey to life seemed to be successful in the minds of these four participants.

Participants were asked open-ended questions at the end of the program evaluation. What became very clear was that participants definitely enjoyed the more active exercises in the program. The role plays, game video reviews, practice of skills, and the shooting pucks in to the bucket stress exercise were their favorites. Participants cited several unique things they did not enjoy about the program including the homework, the length



of the sessions, feeling that there was too much at the start, and too much talking. Again, none of these concerns were listed more than once.

Relative to improvements that could be made to the program two very insightful comments were presented. One, the program should be on-ice earlier to help show the participants when to use the skills in context, and two, find out what the needs of the participant are and work on these as the program is implemented. All four participants said they would recommend the program to other hockey players, especially to players that are “dirty and aggressive”, “out of control”, and “mad, upset.” Participants also suggested that the program could help your average hockey player that does not necessarily have issues with aggression, and players that will commit to practicing and using the skills. Finally, participants talked about why they would recommend the program. The following four quotes sum up their feelings for this program, “It helped me a lot and I would think it could help other people”, “It helps you in life, not just hockey”, “Because it makes you a better player and person”, and “Because if this guy could (help) me then there is hope for you.”

#### *Summary of the Playing Tough and Clean Hockey Program Evaluation*

Overall, the program was evaluated very highly by reviewers, and the participants who thought it helped them in many ways that the quantitative measures did not always reveal. Quantitative data were not totally supportive, yet did reveal program effects for each participant. Specifically, the program was reviewed by experts and considered to be a scientifically valid and viable program with objectives, content, and activities that could teach emotional toughness to players, reduce aggressive acts, and had face validity in the

hockey community. The program was reliably executed thus allowing one to infer that each participant received a very similar program that was also individualized to their specific needs. Participants understood and learned the program content as evidenced by their perfect scores on the program test. And, finally, the program evaluation revealed that participants enjoyed the program and felt it benefited in hockey and in their lives. Therefore, it seems the program revisions made were appropriate, and the program, with further revisions, is effective in the perception of participants.

### Summary of the Results

#### *P1 Summary Results*

As mentioned earlier, P1's goal was to play tough and clean hockey. He was a quiet kid who was not very assertive in his play during the early part of the season, but became much more assertive as the season progressed. P1 was committed to the program and made significant improvements. P1 reported being more emotionally tough, in emotional control and in control of his temper, and playing more tough and clean hockey. He also felt he was less dirty and aggressive. P1 did not reduce his aggressive acts much, but did retaliate 20% less of the time when provoked.

#### *P2 Summary Results*

P2 was already playing tough and clean hockey when he joined the program but hoped to play even more physical while continuing to play clean. He was very committed to the program, and had much success using centering. Because of his tough personality coming into the study, he did not perceive many gains relative to emotional toughness or control. Although P2 was not exhibiting much aggressive behavior, he still decreased his

aggressive behavior during the program. He also greatly reduced his minor aggressive acts, unlike his counterparts in the study.

#### *P3 Summary Results*

P3 tended to react aggressively to provocation. Thus, his goal was to stop retaliating. P3 was very committed to the program, and had success with all of the skills taught. He was exceptional in terms of transferring his program skills to school. P3 did not report major gains in emotional toughness, control, or tough and clean hockey, but did perceive a large decrease in dirty and aggressive hockey. P3 did not exhibit great changes in aggressive behavior until the last five games of the season where he did not retaliate one time. He also reduced his major aggressive behaviors.

#### *P4 Summary Results*

P4 was least committed to the program, but became more motivated to practice the skills later in the program. His goals were to stop retaliating and play tough and clean hockey. P4 was very competitive and always attempting to compare himself to others. Thus, a performance enhancement approach was adopted to get him to buy-in to, and hopefully value, the program. Being the most aggressive, P4 also had the greatest change in behavior. Specifically, he dropped almost two aggressive acts per game, retaliated 19% less, and reduced his major aggressive behaviors by 1.88 per game. Hence, P4 made the biggest improvements in reducing his aggressive behavior.

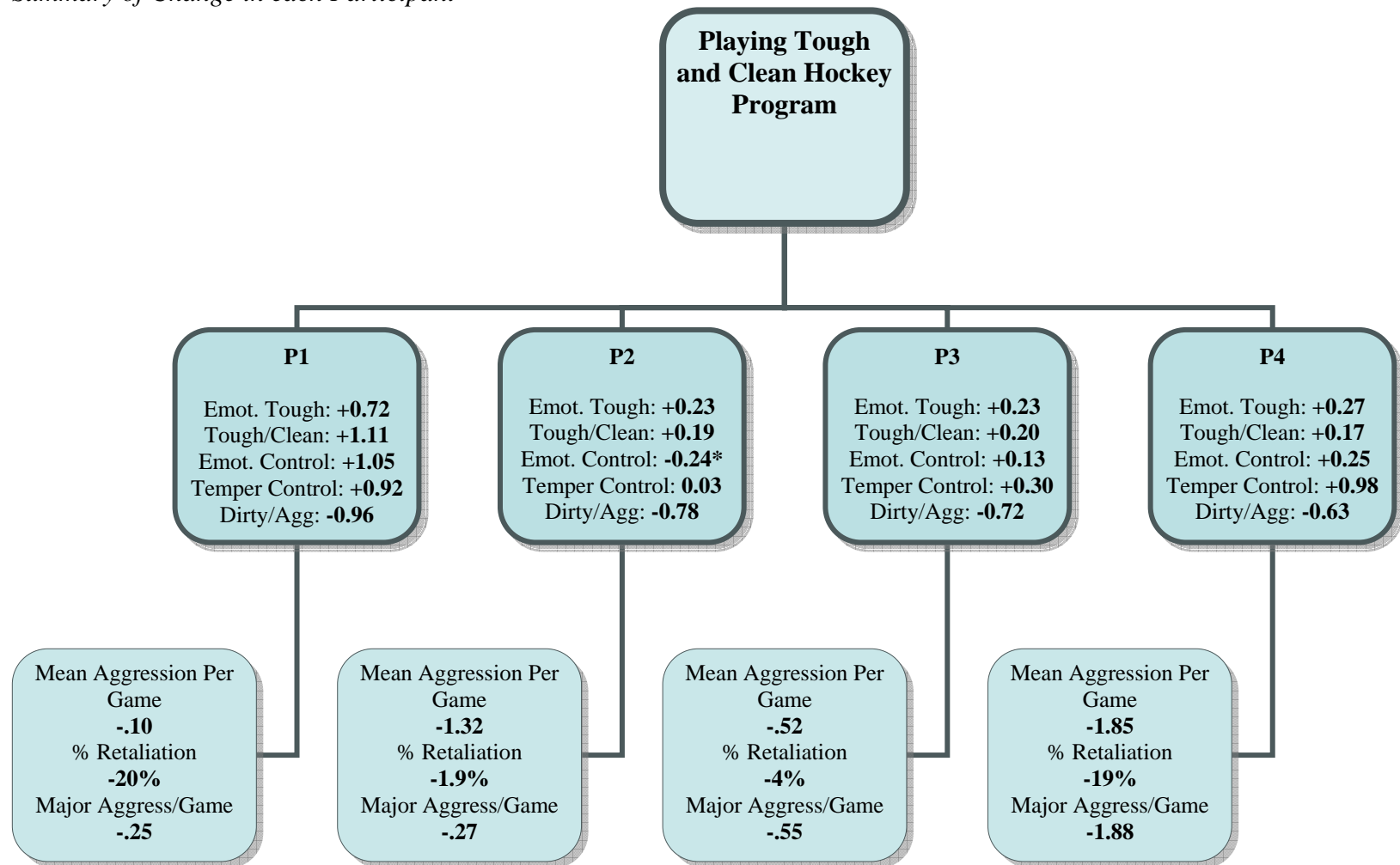
#### *Overall Results Summary*

Each of the participants in this study, in their perception, made improvements after implementation of the Playing Tough and Clean Hockey Program that were not always

significant. It should also be noted that while not all findings were of enough magnitude to warrant significance, almost all of them were in the expected direction. Hence, these participants did respond to the program. The following is an overview of the results by participant, and a diagram to assist the reader in integrating participant changes (see Figure 23). The summary results figure can be inspected in two ways. First, looking across participants one sees the direction of change denoted by plus and minus symbols. Emotion management variables were hypothesized to increase after program implementation, and aggressive behavior decrease. Overall, participants were changing in the direction forwarded in Hypotheses 1 and 2 except for one case. P2 had a lower score on emotional toughness during the program, but his baseline score was nearly a mean of 5.0 thus allowing no room for improvement. Therefore, his lower score during the program was still very high. Second, this figure can be inspected by looking within the participant to view the magnitude of change. Participants varied widely on the magnitude change, yet all were moving in the directions hypothesized.

Figure 23

*Summary of Change in each Participant*



## CHAPTER IV

### DISCUSSION

The Playing Tough and Clean Hockey Program was designed to teach youth ice hockey players to control their emotions, develop emotional control skills, and become tough and clean players, while avoiding dirty and aggressive hockey. It was also constructed to reduce acts of aggression. This study was undertaken to evaluate the program's effectiveness. Two hypotheses were tested: (1) participation in the program would enhance feelings of emotional control and toughness; and, (2) participation would reduce aggressive acts. The results of this study are summarized in this discussion and related to the previous literature. In addition, theoretical and methodological advances made in this study will be addressed; strengths and limitations presented; and, practical implications and future directions examined.

#### Prevalence of Aggression

Review of the four participants' games on video revealed an alarming amount of aggression team-wide. For example, in one game far too many instances of aggression to count were observed and resulted in a nasty, penalty-filled game. In a second situation, a player not in the program ripped the helmet off of his opponent's head following a minute of aggressively going back and forth at each other. He then proceeded to hit his opponent over the head with the helmet. This situation, the most exaggerated witnessed all season, was the worst, yet many very aggressive, almost violent behaviors occurred

every game. While these numbers were not calculated over all games (because they were not the focus of the study) they do have important implications for those interested in aggression in sport. Specifically, previous studies that have relied on penalty data as their sole marker of aggressive behavior would not have even come close to capturing the level of aggression seen in the present study where non-penalized actions were recorded. The author and video coding assistant speculate that of the aggressive acts recorded by the four players in this study and their teammates and opponents, probably less than 10% were penalized. Specific to the participants of this study, the rate of aggression was (3.95, 5.91, 4.18, and 1.82 aggressive acts per game, and 3.97 aggressive acts per game across the four participants) again greater than reported in studies assessing penalties (e.g., Widmeyer, Dorsch, Bray, and McGuire (2002) reported 5.0 penalty minutes per game team-wide). Hence, youth ice hockey aggression seems to be much more prevalent than sport science researchers have reported in the past (except for Lauer et al., 2003, and Kirker et al., 2000). It is the investigator's perception that the four participants' aggression rates are likely indicative and possibly a little low compared to their peers. In the future, calculating rates of aggression for each player on the ice would provide a context to the magnitude of aggressiveness in each specific game.

Purpose 1: Evaluate the Influence of the Program on Participants' Emotional Control,  
Emotional Toughness, and Aggressive Behavior

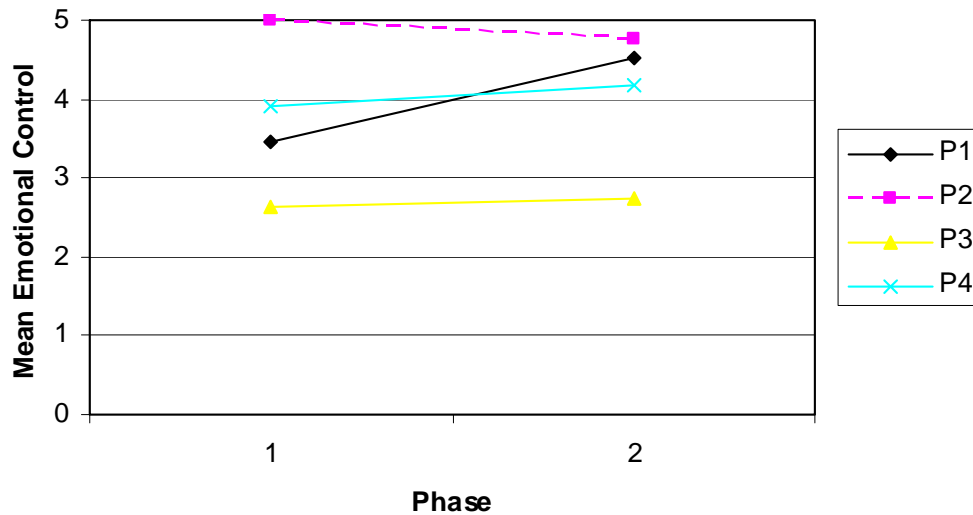
The first purpose of this study was to understand how the program influenced participants' emotions, emotional control, emotional toughness and aggressive behavior. With the first purpose were two hypotheses. Each of these will be examined next.

*Hypothesis 1: Increased Emotional Control and Emotional Toughness will follow Program Implementation.*

The Playing Tough and Clean Hockey Program was implemented with the objective of enhancing the emotional control and emotional toughness of participants in an effort to reduce their aggressive acts in hockey games. Of the four participants, P1 self-reported the greatest gain in the ability to control his emotions while opponents were playing aggressively. P2 and P4 already felt they were in control of their emotions, while P3 enhanced his emotional control, but not to a degree of great control (see Figure 24).

Figure 24

*Participants' Self-Reported Emotional Control During Baseline and Program Phases*



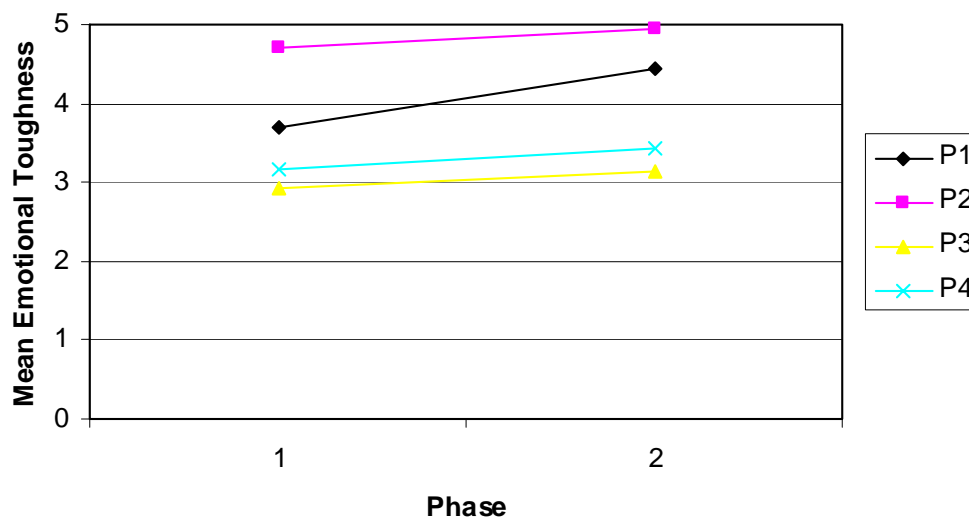
Finally, each participant reported an increased in their emotional toughness from baseline to program (see Figure 25). Again, only P1 felt he made 'distinct' improvements in his emotional toughness.



As detailed in the procedures section, program skills and activities were designed to enhance these emotional control and toughness variables. The skills of controlled breathing, centering, visualization, imagery, and the 3 R's were all implemented relative to participants' ability to maintain emotional control and toughness. Several authors have written about the success of these skills in managing emotion (Botterill, 1996; Brunelle et al., 1999; Botterill & Brown, 2002, Crocker et al., 2002; Jones, 2003). For the most part

Figure 25

*Participants' Self-Reported Emotional Toughness in Adverse Situations During Baseline and Program Phases*



participants were very positive about the emotional control skills learned in the program. However, these skills did not greatly enhance feelings of emotional control and toughness. Distinct enhancement in both emotional control and toughness was only reported in P1. There are several reasons for this finding. First, P2 and P4 reported high

levels of emotional control in the baseline (and temper control and emotional toughness for P2) and thus represented a possible ceiling effect. Second, little variability in scores was found for several of the participants. Nonetheless, the effect is headed in the appropriate direction in the program phase. This suggests that the program had a degree of influence on the emotional and temper control, and emotional toughness of participants who were not scoring low on those variables, and thus, had less room to improve.

Tentative support was found for emotional toughness skills as a method for playing tough and clean hockey and reducing aggressive behavior. Correlations frequently revealed significant relationships between emotional control, emotional toughness and a player's self-perception of his dirty and aggressive play, tough and clean play, and skills effectiveness. These results support the conceptual model forwarded in this program, and the previous work of Lazarus (2000) and Vallerand and Blanchard (2000). Emotions were influential in the aggressive behaviors of participants; however they were also related to the participants thought process. For example, when P3 was checked from behind or punched he would become very angry and think "get him back." For P3 emotion and the cognition could not be divorced from one another because both were manifested in situations where P3 felt he was provoked. Goleman (1995) asserts that humans have cognitions working at a subconscious level that influence emotions (i.e., the emotional mind). The emotional mind, unlike the rational mind, responds intuitively and does not involve conscious thought. Hence, irrational thoughts or perspectives developed over years of conditioning may be a part of the person's subconscious that leads to

emotional reactions, without conscious thought of this perspective at the time. Thus, it may be in a fast-paced sport like hockey that a perspective generated over years (e.g., being checked from behind is unfair), leads to very negative emotions and a lack of emotional toughness. Yet, this does not mean that the player necessarily had the irrational thought while on the ice, he or she just reacted. When holding such a perspective you will be more prone to respond emotionally and lose emotional toughness because of it. This lends credence to the importance of discussing underlying perspectives and thoughts players have about certain provoking situations and helping them view it differently. With this tact, a consultant can alleviate emotional responses by influencing the subconscious perspective.

*Anger, frustration, and embarrassment.* An interesting sidebar to the emotional toughness finding was the relationship of negative emotions experienced by participants to emotional toughness and aggressive behavior. As would be expected, many of the negative emotions were highly correlated with one another and feelings of aggression. These items were generally negatively correlated with motivation, emotional control, temper control, emotional toughness, and tough and clean hockey. This supported the items selected from the PANAS (Watson, Clark, & Tellegen, 1988) and from the Aggression Questionnaire (Buss & Perry, 1992) as appropriate for this population.

Anger has been reported as a “psychological bridge” to aggression (Buss & Perry, 1992) and as a frequent antecedent condition (Speilberger et al., 1995; Isberg, 2000). In this study, participants were generally not angry during games as evidenced by all of their mean anger scores being below normal levels at baseline and program. Nonetheless,

when Participants 1 and 3 were angry it negatively affected their ability to play tough and clean hockey. In addition, perceptions of dirty and aggressive play by P1 and P3 were positively associated with feelings of anger. P2 and P4 did not report this relationship which makes sense. P1 and P3 reported being more reactive in their aggression. In contrast, P2 was not an aggressive player, and P4 seemed to employ instrumental types of aggression in his opinion. Anger also influenced P1 and P3's ability to play tough and clean hockey negatively. P3, to his credit, seemed to manage his anger better during the program because his anger was no longer related to lower scores of tough and clean play. These results reveal that anger serves as an antecedent for some players, the more reactive aggressive types, but not for all players. As the expert reviewers suggested, the player's general type of aggression (i.e., hostile, instrumental) can be linked to a pattern of antecedent conditions. This influences, then, the type of intervention implemented.

Frustration was thought to be a strong precursor to aggressive behavior in sport (Isberg, 2000). Yet, in this study, frustration was generally not an issue, and only P1 reported frustration as negatively influencing his emotional toughness and tough and clean play (only at baseline). Interestingly, only during the program phase did P3's frustration negatively affect his tough and clean play. Fortunately, his levels of frustration dropped in this phase. Therefore, the players in this study did not perceive frustration as a major antecedent condition to aggression.

The third emotion of interest in this study was embarrassment. Little research has been dedicated to embarrassment in general, as well as attempting to link it to aggressive behavior in sport. Again, these participants reported feeling little embarrassment during

games, or at least below normal levels. And, only P1 and P4 had negative correlations between perceptions of embarrassment and tough and clean hockey. Therefore, embarrassment may have been influential in two cases in this study.

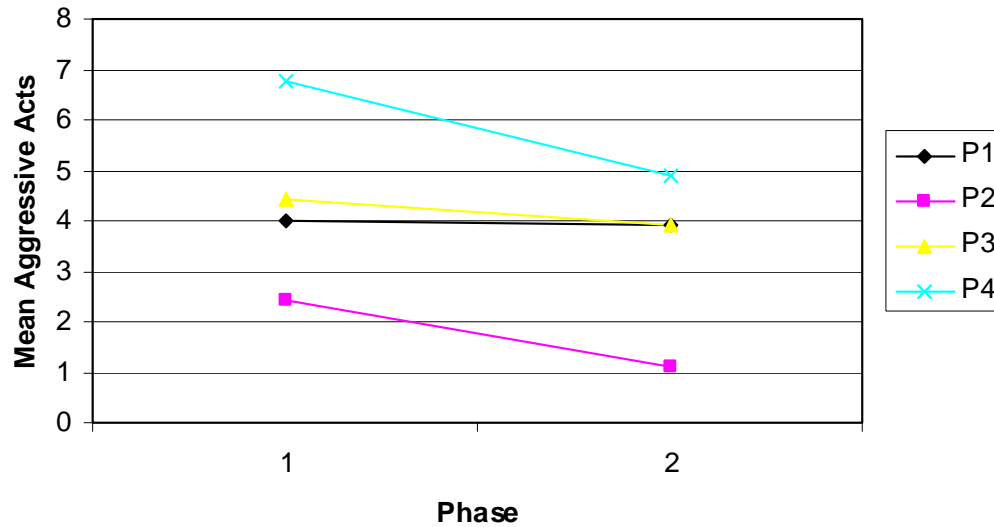
In summary, participants felt relatively little negative emotion during the season, but when they did they generally were able to respond positively as evidenced by their emotional control, temper control, emotional toughness, and tough and clean hockey self-report scores. These findings make sense because players were instructed to view emotion as natural and to try and control their responses to it. Brunelle and colleagues (1999) found the same result attempting to reduce anger in soccer players, the intervention was successful not in reducing angry feelings, but in the reduction of the incidence of angry behavior. The difference is that players in this study felt below moderate levels of anger. Feelings of anger, frustration, and embarrassment were not very important across the four participants. However, in more emotional players that tended to be reactive in their aggression, these negative emotions were, at times, antecedents to a lack of emotional toughness and tough and clean play.

#### *Hypothesis 2: Fewer Acts of Aggression will occur Following Program Implementation*

The ultimate goal of the Playing Tough and Clean Hockey Program was to reduce the aggressive acts participants were exhibiting in games. As was mentioned throughout this study, emotional control and toughness skills (among other self-regulation techniques) were implemented to influence behavior change. From inspecting Figure 26, it becomes clear that three of the four players in this study were not overly aggressive, thus limiting the mean difference that could be displayed from baseline to program. Nonetheless, P2

Figure 26

*Participants' Mean Aggressive Acts Baseline and Program*



and P4 showed meaningful reductions in their aggressive behavior. P2 only exhibited 2.42 aggressive acts per game in the baseline, and, yet, during the program reduced it to 1.10. P4, the most aggressive player according to calculations at 6.75 aggressive acts per game at baseline, greatly reduced his aggression to 4.90 in the program phase. P1 and P3 had smaller reductions in aggression. One can argue that the program may have buffered the potential increase of aggressive behavior often observed in players as the season progresses toward playoffs, antagonistic rivalries are formed, and the intensity of competition and the importance of winning increases (Lauer et al., 2003). Previous research is equivocal in terms of when the most aggression occurs in a game and a season. One study found that the most frequent aggressive penalties occur in the third

period (Wankel, 1973), whereas another study found that the highest number of aggressive penalties occur in the first period (Widmeyer & Birch, 1984). Wankel (1973) also studied penalties over a season and noted that the most aggressive penalties occurred in the first half of the season, which runs counterintuitive to the observations of the investigator in his years as a player, coach, and hockey director and the results of the previous study of this program (Lauer et al., 2003). A problem exists with this statistic in that only penalties were measured. Anecdotally, officials tend to allow players 'to play' more and thus allow them to bend the rules more in a playoff game or late in the season as compared to an early season game. Therefore, Wankel's (1973) finding was confounded by the official's interpretations of on-ice behavior. Ultimately, more studies are needed to understand how the time of the game and season influence aggressive play.

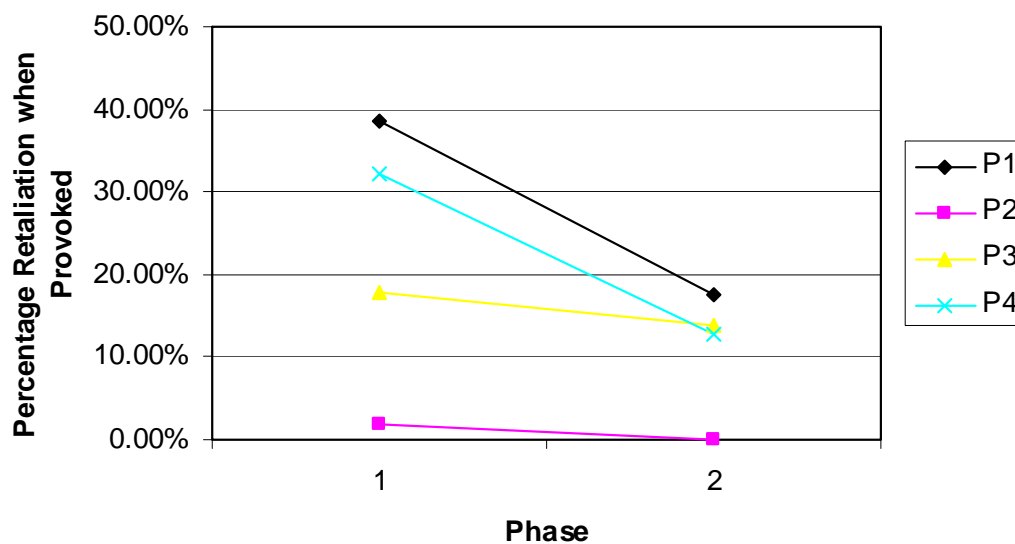
Program reviewers predicted that the type of player and his style of play would affect the intervention's effectiveness. They felt a more aggressive player that bought in to the program would have greater effects from the program. This was shown with P4, where he was the most aggressive player and had the largest reduction in aggressive acts. Moreover, this result is impressive when one considers that of the four players P4 struggled the most with program adherence. Thus, results showed that this program can influence players who are somewhat aggressive, and with very aggressive players if they can be convinced to buy into the program. As mentioned earlier, more aggressive players need to be identified and placed in the program to evaluate its effectiveness. An idea that has been discussed with a local hockey organization is to place players receiving multiple unsportsmanlike penalties for aggressive behavior in the program.

In summary, participants varied in their reduction of aggressive behavior, but all did reduce their aggression. Further improvements were revealed in each participant by further stratifying certain types of aggressive behavior.

*Participants' retaliations when provoked.* Throughout the study participants were asked to remain emotionally tough when opponents provoked them. This was a major emphasis in the program. To measure the effect of this training, the number of times players were provoked in games were tallied as well as the number of times they responded with aggression. Below is the retaliation percentage from baseline to program for each participant (see Figure 27). With the exception of P2, each participant was retaliating to provocation to some degree. P1 and P4 showed the greatest rates of retaliation at baseline, and as the investigator had hoped, P1 and P4 also showed

Figure 27

*Participants' Percentage of Retaliation when Provoked Baseline and Program*





tremendous drops in retaliation. In the case of P3 his rate of retaliation also declined, but less than P1 and P4. P3 was retaliating less in the program phase, but then had a game where he retaliated three times in seven critical incidences. Removing this one game from the program period would drop P3's retaliation percentage to 9.1%. This 'blow out game' (i.e., participant regressed to frequent aggressive behavior) as it was labeled is indicative of how players must maintain emotional toughness even when very frustrated and angry. Moreover, players will often suffer setbacks while making improvements.

Overall, improvements were shown in the rates of retaliation exhibited by P1, P3, and P4. P2, in contrast, only had one retaliatory behavior the whole season which occurred in the baseline period. Thus, the program's emphasis on remaining emotionally tough and not retaliating appeared to have positively impacted the participants' behavior. This is not unique; for instance, Botterill (1996) has prepared elite athletes to be emotionally resilient with performance success.

Referring back to the conceptual model of emotion and aggression, it is apparent that reducing aggression involves more than one's cognitions, emotions, and physical responses. The environment plays a very influential role in hockey aggression as proposed by Vaz (1982) and Smith (1983). Smith, in response to crowd violence at sporting events, forwarded a "violence precipitates violence hypothesis", and Harrell (1980) reported that the greatest predictor of aggression in high school basketball is opponents' aggression. Players in this study were constantly provoked by opponents. A strong behavioral strategy in many situations is to remove the person from the environment that leads to their aggressive behavior. Unfortunately in ice hockey, one

would have to quit the sport. Therefore, if you want to continue to play hockey you must be able to effectively cope with provocation and maintain emotional control. It is analogous to someone on a diet going to their favorite restaurant several times per week; the person is going to struggle and may regress to poor eating habits at times. Hence, the players in this study were thrown into situations that demanded emotional toughness and control, and with some exceptions in the program phase, these players were able to maintain their discipline.

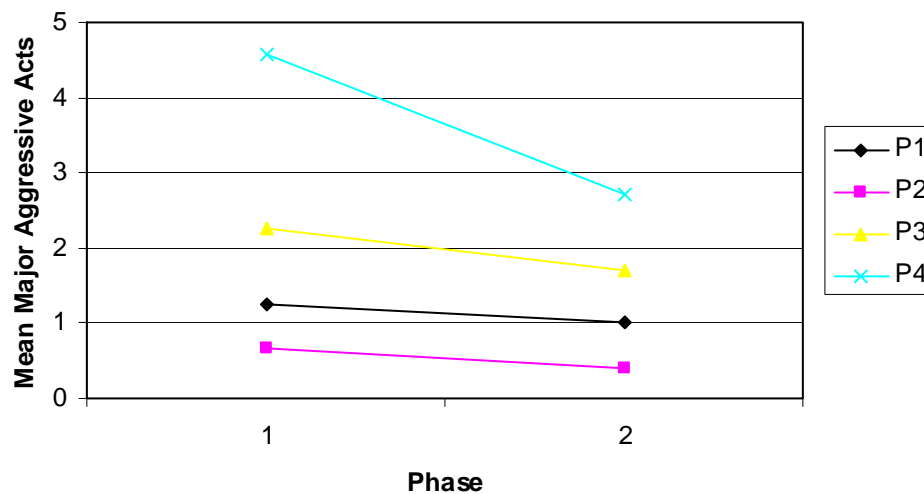
As mentioned in P1's case, aggressive players draw in non-aggressive players to their style of play. Three of the four participants in this study retaliated quite often during the baseline phase. This highlights the importance of teaching players how to deal with the aggressive behaviors of opponents. The 3 R's and the concept of emotional toughness were developed for these very reasons by Lauer and colleagues (2003). P1 admitted that he would have been more likely to stop playing and punch a player last year, but the program helped him have a less exaggerated response such as tripping or holding his opponent.

*Major versus minor aggression.* The previous example of P1 retaliating to provocation and many like situations similar to it have been observed and experienced by the investigator. With this tacit notion and the work of previous researchers (Audette, Trudel, & Bernard, 1993; Gilbert & Trudel, 2000; Smith et al., 2000) it was clear that aggression was more complex than simply 'one aggressive behavior fits all.' Therefore, aggressive acts were categorized into major (e.g., roughing, elbowing, checking from behind) and minor (e.g., slashing, high sticking) relative to their severity. In this program,

participants were taught to manage the emotions that often lead to major forms of aggression. In retrospect, each participant was able to reduce the frequency of major aggressive acts from baseline to program. Inspection of Figure 28 highlights the decline in major aggressive acts, especially for P4, the most aggressive player in the study. Hence, the program seemed to affect participants' propensity for major, retaliatory, often more hostile aggression.

Figure 28

*Participants' Major Aggressive Acts Baseline and Program*



Minor aggressive acts, on the other hand, such as slashing and minor high sticks, were not as affected by the program. It was uncanny how participants' rates of minor aggression were almost the same from baseline to program. Only P2, the least aggressive player, showed a discernible decrease in minor aggression reducing his minor aggressive acts from 21 in 12 baseline games to 7 in 10 program phase games. This finding reveals

how the program influenced players to manage more emotional and reactive types of aggression. However, more instrumental aggressive behaviors were not as influenced. This result was not unforeseen. The expert reviewers predicted that the more emotional players would benefit most from this program. This was due to the emphasis of the program being more on eliminating the major aggressive acts, especially after Session 1's activities on empathy and understanding the differences between dirty and aggressive and tough and clean behaviors. These findings suggest that instrumental aggression must be discussed to a greater degree throughout the program.

#### Purpose 2: Formative Evaluation the Effectiveness of the Playing Tough and Clean Hockey Program

A second purpose of this study was to conduct a formative evaluation of the Playing Tough and Clean Hockey Program. Evaluations of programs in the past have relied mainly on outcome data or summative evaluations (Worthen, Sanders, & Fitzpatrick, 1997), especially in sport psychology. However, education evaluators have moved to more formative or process-focused evaluations to understand 'how' a program influences its participants. The formative evaluation of the Playing Tough and Clean Hockey Program involved several steps. First, a review of the program and its objectives, content, and exercises was conducted by outside experts. The reviewers were optimistic that the program would reduce aggressive acts in youth ice hockey players and enhance their emotion management skills. Also, they felt that the exercises and content were appropriate, especially for players that are more emotional and retaliatory in their aggressive behavior. It was noted that certain components would have to be emphasized

more to influence players that are more instrumental in their aggression. Overall, the reviewers verified the efficacy of the program and suggested revisions that were incorporated into the program (e.g., revised the first R to “respond”, added a pro’s versus con’s aggression consequences exercise, and included emotional inoculation in imagery training).

The second step was to select appropriate players for the program based on the selection criteria. Three of the four players fit the selection criteria of playing aggressive hockey, but were not overly aggressive. P2, in contrast, was not an excellent fit but was included because the investigator thought he could still gain something from the program, he was needed to reach the goal of four participants, and he was committed to taking part. Each of these participants were probably in the contemplation stage of changing their aggressive play, and thus, bought into the program and eventually moved into the action stage by the end of the program. Clearly, more aggressive players would better fit the program, yet those are the exact people who do not see the need for change (i.e., pre-contemplation). In fact, in recruiting participants some of the most aggressive players and their parents did not seem interested in taking part. In the future these types of players must be reached, and the program will have to be adjusted accordingly to include more time and effort relative to moving the more aggressive player from pre-contemplation to contemplation. Based on the experience of P4, efforts to remind these players to practice program components would need to be made. Strategies based on the Transtheoretical Model (Prochaska, DiClemente, & Norcross, 1992) could be derived and adjusted to strengthen the ‘buy-in’ and awareness section of the program.

The third step in evaluating this program was an ongoing process and outcome evaluation. Feedback from participants (during discussions and from the program evaluation) and their parents, the investigator's post-session reflections, and observations of games provided evidence that participants were complying with the program, and committing to reducing their aggressive actions on the ice. Players talked during the sessions about how they felt the program changed the way they viewed and played the game; to play it more tough and clean. The investigator's session reflections revealed the process of how players oscillated from doing a great job in the program to struggling at times (which is to be expected). That being written, the investigator felt confident that each player gained something from the program that changed them. For example, P4 felt the program changed the way he thought about the game and helped him stay calm. P3 felt the program skills of imagery, controlled breathing, and the 3 R's were essential in his perceived change in behavior. P1 talked about how he was more able to maintain his emotional toughness when being provoked. Finally, P2, the least aggressive player the investigator has witnessed in Bantam hockey, felt he learned to incorporate centering into his game, control his emotions and reactions to teammates, and what it meant to play tough and clean. Therefore, each player felt the program was successful in changing them and meeting their goals. Hrycaiko and Martin (1996) assert that social validity evaluation is one of two ways to determine successful behavior change; clearly the other is scientific evaluation. Obviously, from accounts of the participants this program was practically valid because it met their goals to reduce aggressive behavior, the procedures were thought to be acceptable, and the participants were satisfied.

The fourth step in evaluating the effectiveness of the program was to assess the implementation of it. Hrycaiko and Martin (1996) emphasized that a program can be judged across participants only if it was implemented reliably. Then, one can suggest that the improvements found were due to the program procedures. A reliability assessment revealed that the program was executed at 99% reliability. Thus, each participant received essentially the same program that was then individualized to their needs, goals, and concerns.

The fifth way to evaluate the program was participants' comprehension of the content. Only if participants learned the program could the program be implicated in changing their attitudes and behaviors. All four participants understood the content as evidenced by their perfect scores on the program test. Additionally, they agreed the program and the presenter were "easy to understand." Moreover, the investigator continuously asked players to define and discuss key constructs and skills such as emotional toughness, centering, and the value of emotions. It was the perception of the investigator that these participants knew the program and were then able to implement it into their games.

The sixth way to evaluate this program was participant satisfaction. Each participant believed that the program enhanced their development as a hockey player and helped them play tough and clean hockey. Participants felt the overall quality of instruction was "excellent" ( $M = 5.0$  on a scale of 1 = poor, 5 = excellent), and the program was "excellent" as well ( $M = 5.0$  on a scale of 1 = poor, 5 = excellent). Moreover, the program evaluation showed that the participants also enjoyed the program ( $M = 4.25$ , on

a scale of 1 = not at all, 5 =very much). In the end, participants felt that the program influenced them not only at the rink, but in life. This was never more quaintly expressed than by P3 who said, “It made me a better player and person.” Crocker, Alderman, and Smith (1988) found the same result when implementing a cognitive-affective stress management program with elite youth volleyball players.

### *Programmatic Advances*

The greatest advancement of the Playing Tough and Clean Hockey Program was the application of a conceptual model of emotion and aggression that was adapted from Lazarus’ (2000) cognitive-motivational-relational theory. This model drove the developments of the individual version of the Playing Tough and Clean Hockey Program and the adjustments that were made to make it much more successful. Nonetheless, the conceptual model for this program must encompass environmental/social influences including those from significant others. For example, the role of the parent and the coach must be identified and integrated into a comprehensive intervention package.

Adaptations to the Playing Tough and Clean Hockey Program were made by the investigator in reaction to the previous study of the program (Lauer et al., 2003). Changes were implemented to enhance the effectiveness of the program. The biggest change was to move to a one-on-one consultant-client format instead of implementing the intervention with a team. It was thought the format change would enhance time in practice, reflection, and also enhance investigator-participant trust and credibility. Moreover, it would make the program more individualized to the needs of each participant. From the investigator’s perception the change to an individual consult format



was successful and achieved the goals stated above. It allowed the participant more time to ask questions and the investigator to probe. Additionally, it enhanced participants' reflection on their practice, increased time on task, and made them more accountable because the investigator was closely monitoring their progress. In hindsight, the investigator could have possibly pushed even harder. P3 remarked that he wished he had been pushed to practice the skills three times per day instead of two!

Other significant changes were made to the program including a greater number of sessions. Although participants were generally alright with the number of meetings, one participant did suggest having more meetings (albeit shorter meetings). Another change was to include more role-play exercises based on the success Brunelle and colleagues (1999) had in reducing anger in male soccer players. The inclusion of role plays was successful, even though the investigator doubted their effectiveness at times. Each participant felt the role plays or 'walk-throughs' as we called them helped them learn and transfer the 3 R's.

In the current program more time was allotted to the teaching and practicing of emotional toughness skills. As would one would guess, this influenced the success participants had as they felt they learned program skills and were able to use them in practices, games, and in life.

A significant emphasis in the current program was to enhance the self-regulation and self-monitoring abilities of participants as documented in the procedures section. Initially, it appeared that this increased emphasis on goal setting, logging activities and reflecting, discussing possible problem scenarios and solutions and so on enhanced the participants'

ability to self-regulate and self-monitor their emotional toughness skills. This was most evidenced by multiple accounts of how they changed their third 'R' to meet the situation, including the several times they talked about using their skills prior to tests or when frustrated with a family member. This reveals a qualitative difference in the acceptance of the program by the participants. At first, participants bought into the program meaning they were following instructions to appease their parents and because they made a commitment to the investigator. Later in the program, however, the investigator noticed the participants 'valuing' the program meaning they did it because it was important to them. Participants most likely valued the program later on because they recognized how it was enhancing their performance. This progression from buying-in to valuing is probably key to getting players to self-regulate their own behavior.

Overall, the participants felt the program was effective in terms of helping them play tough and clean hockey, avoid dirty and aggressive hockey, remain emotionally tough in negative or adverse situations, control emotions, relax under pressure, and play better hockey. Thus, in their opinion, the program was an outright success. Many reasons were forwarded for this success, but none was clearer than the multiple skills or tools they learned to enhance their emotional toughness on the ice. P2 remarked that he thought one of the best things about the program was that he learned "tools" that he could use to enhance his hockey performance. Likewise, P3 reported that the "practicing of centering and the 3 R's made it automatic and he had no doubts in using it (in games)." Participants also felt that the instructor was excellent which brings up an important point. Any success in this program was related to the personality, philosophy, social skills, and ability to

listen and ask questions, of the investigator. This investigator is not trying to congratulate him self as a great consultant. The message is that one must put the time, effort, and attention to detail in to making the program successful for each individual player.

### *Evaluation of the 3 R's*

Of interest to the investigator was the efficacy of the 3 R's on-ice routine for emotional toughness. Previous versions of the 3 R's such as Ravizza and Osborne's 3 R's at Nebraska (1991) and Murphy's (1996) 'Four Point Plan to Refocus' served as a foundation for the development of a brief, powerful routine that could be used during play to refocus from thinking about hurting someone to playing hockey (Lauer et al., 2003). Participants in this study felt the 3 R's were somewhat difficult to learn. This was evidenced by initial attempts to use the routine that were not always successful. However, by the end of the nine sessions each participant reported success using the 3 R's. P2 and P4 were not as successful, but were improving their ability to use it. Participants used it in many situations such as when very emotional after a goal, on the bench to recover or refocus from a long or frustrating shift, and as was intended, to refocus when feeling negative emotions or a desire to be aggressive. Thus, the goal of the 3 R's being used on the ice was achieved by at least three of the four participants. For example, P3 talked about how he could use the 3 R's as he was skating, and P1 pointed out several times during video review that he used the 3 R's while lying on the ice after a dirty hit.

Obstacles to using the 3 R's appear to be recognizing when to use it effectively, remembering the steps, and using it when very emotional. Keys to learning and applying the 3 R's appear to be much repetition and simulation, awareness of situations to apply it,

knowing when and how to apply it through on-ice practice, role plays, and discussions, and being able to adjust it upon reflection. Evidence of the ability to adjust to changing conditions was apparent when P3 and the investigator decided that he needed to, when very emotional, use the 3 R's twice to get the effect. Additionally, as theorized by the investigator, several participants felt that imagery and visualization gave them more confidence to apply the 3 R's in game situations. P3 said that it "prepared him to use the 3 R's."

The 3 R's were considered successful by participants because it helped them "refocus", "gain energy", "not retaliate", and "calm down." The program evaluation and post-game reports revealed that the 3 R's were somewhat effective. Why were they perceived as effective? The investigator forwards several possibilities that probably are all at work. First, the 3 R's provide the user a method for replacing hostile cognitions related to negative emotions with more productive, positive statements as has been found in the coping literature (Hardy, Jones, & Gould, 1996; Crocker et al., 2002). Hence, it serves to refocus the participant on playing hockey instead of being aggressive or dwelling on their negative feelings. The cue words and centering that the 3 R's consist of certainly catalyze this effect. The goal of the 3 R's at Nebraska was to help players focus on 'one play at a time' and recover from the previous play (Ravizza & Osborne, 1991), thus using it as a focusing technique. Second, the 3 R's assist the user in managing the intense feelings of anger, frustration, and embarrassment via a relaxation response. Managing one's arousal levels have long been presented as a method of stress

management and emotional control interventions (Vealey, 1988; Hardy et al., 1996; Crocker et al., 2002).

A third possibility is that the 3 R's may provide users with a sense of control when presented with a situation that used to feel out of control. McCloskey, Berman, and Coccato (2005), reported a laboratory experiment using the Point Subtraction Aggression Paradigm, where participants could accumulate points with monetary value, subtract points from others (fictitious participants with computer controlled responses), or escape further attack (i.e., subtraction) from the computer. Results of this study revealed that providing an escape option made the participants less likely to retaliate to computer-generated subtractions. The researchers suggested that having an escape option in a situation where one felt somewhat helpless and retaliated in the past provides the user with a sense of control. Cognitive-affective techniques such as the 3 R's may provide this sense of control. Thus, this effect may be occurring when participants are using the 3 R's in games. This is certainly a phenomenon worth researching.

Ultimately, to use the 3 R's successfully in hot button situations requires buy-in, great effort, much repetition, and practice to master. This program evaluation has given support for the 3 R's as a tool for managing emotions during performances.

### *Program Changes*

From the execution of this study of the Playing Tough and Clean Hockey Program, the investigator is proposing further refinements to enhance its effectiveness. The most pressing and important change may be adjusting the program to reduce minor, instrumental forms of aggressive behavior. Specifically, the program seems to be more

successful in eliminating retaliatory behaviors, but not as successful in eliminating minor aggressive penalties such as slashes. Moreover, additional awareness exercises should be included to assist players in understanding when they are emotionally losing control, and when are the best times to use their skills. In the next program more frequent on-ice practices will be included to improve the transfer of emotional toughness skills to game situations. In addition, an attempt will be made to streamline the program so that core concepts and exercises are fully covered, but the amount of talking and repetition is reduced. Finally, the investigator, based on the advice of P2, will spend more time asking the participants what their goals are and how they might best improve their game.

#### Current Study Strengths

This study had a number of strengths that were developed based on review of the extant literature, the investigator's experiences, and from talking to experts in hockey and sport psychology.

#### *The Program Fills an Important Need*

The most important thing about the program is that it fills a definite need as suggested by coaches, parents, players, and sport psychologists. Smith and colleagues (2002) have stressed the need for emotional control interventions in youth ice hockey to reduce aggression. The investigator constantly listens to concerns from those at the rink about how 'dirty' the game has become. The upwelling of concern created by Bertuzzi's violent hit on Moore has only made the hockey community more aware of the aggression problem. Unfortunately, there are those individuals in the hockey community who do not agree with the need to reduce aggression in youth ice hockey because they feel it makes

youth tough and life is tough so this is a good training ground, or that it is the way the game is supposed to be played. From the investigator's perspective physical play in hockey is a part of the sport. Players must learn to be disciplined. Aggression is not a part of the sport and has many negative consequences which at times have been tragic. The difficult thing is that the line between aggression and physical play is so fine that frequently players (Morra & Smith, 1996), parents, and some coaches and officials do not understand the difference. Therefore, the need has never been greater for a program to teach players how to maintain emotional control and toughness and play tough and clean hockey.

#### *Positive Social Evaluation*

Participants in this study were overwhelmingly positive about the program. They believed the program skills positively enhanced their ability to play better hockey, tough and clean hockey, and maintain emotional toughness in adverse situations. Moreover, they recommended this program to aggressive players and your normal hockey player alike, because all players could benefit from it in life and in hockey.

#### *The Program's Design*

The design of this program and the evaluation were conducted after years of study and experience. The previous study of two bantam teams provided a tremendous learning experience for the investigator which led to many adaptations of the program (Lauer et al., 2003).

This multimodal program was developed to be flexible and meet the needs of its participants. The program does not prescribe one way to change behavior, but several

options with flexibility in meeting the needs of the participants. Thus, it individualizes and does not rely on a standardized 'cookie-cutter' approach. This is a strong point of the study because of the findings that players' values, histories of reinforcers, and experiences of aggression are quite unique. Past research with high school football coaches teaching life skills has revealed the importance of individualizing techniques and interactions to each young person (Gould, Collins, Lauer, & Chung, 2002). A unifying model of psychological preparation for peak performance was forwarded which included an emphasis on the individual personality and motivational orientations of athletes (Hardy et al., 1996). Hence, a program with a strong conceptual framework and the ability to individualize is vital to working with athletes. It seems from the evaluations of the participants that the program was successful in individualizing.

The individual programmatic design was also a strong point of this study. The previous study with two teams (Lauer et al., 2003) did not allow the investigator ample to time to work one-on-one with players and get them to practice and reflect on their training. This limited the effectiveness of the program. An individual consultation approach appeared to be much more effective because investigator-participant trust and credibility can be developed, more time can be spent on reflecting and practicing skills and the investigator can more easily monitor and hold players accountable for their skills practice and commitment to the program. One cannot overlook the importance of building trust and credibility as has been emphasized by four of the best consultants in the field (Halliwell, Orlick, Ravizza, & Rotella, 2003). Thus, the design also enhanced



the compliance of participants. Good compliance existed relative to completing post-game reports and practicing skills in three of the four participants.

Finally, the program was conducted over the course of a season and involved a great number of game and post-game reports. The amount of data obtained from participants allows the investigator to feel comfortable that he had a good representation of their seasons in the data.

#### *A Formative Program Evaluation was Conducted*

Frequently in evaluation research, the only evaluation data collected are outcome data at the end of the program that do not link the program objectives, concepts, and skills to behavior and attitudinal change (Worthen et al., 1997). Just as frequently programs are not evaluated for effectiveness. The current study attempted to invoke a formative program evaluation approach to refine and improve the program. From comments of the reviewers and participants, and data collected throughout the study, the program was positively perceived and supported.

#### *Methodological Advances*

Changes that strengthened this study were not just related to program design. In many aspects this study was methodologically stronger than the previous attempt at studying two teams' levels of aggressive behavior (Lauer et al., 2003). The single-subject design allowed for more in-depth analyses and understanding of sources of aggression and how one can eliminate it. It did not attempt to group the experiences (and data) of participants to calculate a single outcome statistic thus masking the effects of the program on individuals (Hrycaiko & Martin, 1996; Lauer et al., 2003). The use of quantitative and

qualitative data triangulated many of the findings (e.g., participants were less likely to retaliate during the program phase based on self-report measures, session discussions, and video analysis of aggressive behaviors). In addition, multiple dependent variables were assessed including emotional toughness, emotional control, tough and clean hockey, and temper control that appear related to emotion management. Finally, video analysis was conducted by two experts in hockey. Both had experiences as players, coaches, hockey directors, and one member had experience as an official. Moreover, a great number of hours were needed to discuss, argue, and agree on every single possible act of aggression viewed in participants' games. The rigor used in this analysis was necessary for the investigator to feel comfortable that personal biases and perceptions did not influence the results.

### Limitations/Concerns with the Current Study

#### *Participant Recruitment Concerns*

Although the program was successful and may be a viable system for reducing aggression in youth ice hockey players, the players selected in this study were not overly aggressive. Three of the four players were good fits based on the selection criteria, however, a need exists to work with the most reactive, emotional and instrumental aggressive players. Getting the right players for this program has been an issue of concern throughout its development and participant recruitment. Despite the repeated efforts of the investigator it was difficult to identify the most aggressive players until the study had begun. This is due to the investigator being new to the Michigan hockey community, but also due to the players that are most aggressive, and the parents of these

players, believing that they do not need the program. The investigator recalls a parent talking about how he approached another parent of a very aggressive hockey player about the Playing Tough and Clean Hockey Program. According to the parent, the other parent was incredulous and offended that their child would even be considered for such a program. Hence, more work must be done to get players and parents to recognize the differences between aggressive and assertive hockey, and buy-in to the notion of working with a sport psychology professional to reduce aggressive behavior in their children. It is a difficult proposition because the parents, in their mind, may be admitting that their child has a problem. Therefore, this study is limited by the fact that the more aggressive players did not participate.

Another participant recruitment concern that is related to aggressive players not participating is keeping players in the program once they commit. A fifth player, who was more aggressive than the other four participants, was initially included in this study. However, he dropped out of the program prior to the first session for several reasons. First, the mother cited a lack of time and her busy schedule with her other coaching and parenting duties, and second, concerns about her son doing well in school. The investigator appreciated the honesty of the mother and it was much better that she ended her son's participation when she did. Compliance was an issue with this player. He was not turning in his post-game reports. What is concerning is that this player would have been the most aggressive player in the study, and he may have benefited greatly from the program. Over the season this player had at least three or four unsportsmanlike conducts which earned him a game suspension each time. Moreover, he had a very aggressive

episode where he took the helmet off of another player and hit him with it. The mother was slightly concerned about her son's aggressive play as evidenced by her contacting me after the helmet-swinging incident, and thus, was not the same as the parent who reinforces aggressive play in hockey. Unfortunately, his tendency to play dirty and aggressive hockey did not appear to be a priority for this family during the season.

#### *Lack of On-Ice Practice of Emotional Toughness Skills*

In the previous study of the Playing Tough and Clean Hockey Program, players from two teams were taken on the ice multiple times to practice the 3 R's in simulated game situations and 'walk-through' their skills (Lauer et al., 2003). Simulated practice has been revealed as a very successful technique for learning mental and coping skills (Orlick & Partington, 1988; Jones, 1993; Hardy et al., 1996). This was considered one of the most beneficial parts of the program, and it helped players understand how to use the skills in game situations. Unfortunately, only one on-ice practice of 30 minutes could be held for participants in this study because the investigator did not have funding to rent ice, and was not working with full teams thus making it more difficult to get on the ice. The investigator feels fortunate that Coach Karl Hanover allowed the five of us to use a portion of his ice during a practice. The participants found this on-ice practice very helpful and wished we had done it sooner and more often. In future programs more on-ice practices will facilitate greater understanding of how the skills taught in the program transfer to games.

### *Methodological Limitations*

Improvements were made to the method of this study from the previous attempt several years ago, including the measurement of multiple dependent variables and the use of digital video technology (Lauer et al., 2003). Nonetheless, as with any study, some methodological limitations do exist, including the lack of cause-effect conclusions that can be inferred from a field study (even with an extensive formative evaluation that provided support for the efficacy of the study), and the questionable external validity. External validity was not demonstrated for two reasons, (1) the time constraints placed on the study did not allow for a full multiple baseline design, and, (2) the effect of the program may be delayed because not enough time and practice have passed to induce change, especially the effort to change attitudes and reduce habitual emotional and behavioral responses that can be very difficult to change. Several other limitations, the trustworthiness of the data and the fidelity of the dependent variables, video concerns, and the inability to judge intent of aggressive behaviors, require more detailed explanations.

A limitation of this study is the way that participants perceived and answered items on the post-game report. Each participant, at the beginning of the study, was read the items and instructed on the process on how to respond. They were then asked if anything was confusing or needed further clarification. Any concerns were answered at this time, and the investigator felt comfortable that the participants understood each item. Overall, players did understand the post-game report items, however, participants conveyed concerns to the investigator during the season about two items. For example, P4 talked

about how he underreported the effectiveness of his skills post-game because he was still emotional from the contest and tended to be more negative. Hence, P4's skills may have actually been more effective than reported. P2 mentioned that he scored the dirty and aggressive Likert-scale item on the post-game report as good aggression. He changed his score on this item for this particular report. The investigator asked P2 if he needed to change the scores on other post-game reports and he replied "no." Nevertheless, this issue questions how reliable P2's self-report of dirty and aggressive hockey is because it may not be internally valid.

A second limitation is the fidelity of the dependent variables. These variables are not always sensitive enough to reveal program effectiveness. For example, tallying aggressive behaviors was not sensitive enough to ascertain the improvements made by P2 and P3. Instead, close inspection of the data revealed that P2 decreased his minor aggression while P3 improved at the last part of the season. This limitation of a previous study (Lauer et al., 2003) was handled. However, better measures of emotion, emotional control and toughness, tough and clean and dirty and aggressive variables are needed. Little variability was reported by participants in these variables, which is amazing because sport and hockey specifically, are considered emotional roller coasters! Thus, more variability would be expected. The scales on the post-game report must be reviewed and refined to improve the sensitivity of the item.

Furthermore, participants did not provide much detail as to what they were thinking and feeling when they played tough and clean and dirty and aggressive. Hence, they were unable to recall detailed accounts of their experiences on the ice at critical times, as was

on display in the video review sessions. This appears to be an inherent problem since the periods when players are aggressive they may be emotionally out of control and so being may not be able to recall emotions. Short of stopping play and asking players to recount what just happened when a player slashed them and they did not retaliate, other methods need to be created. Initially, the investigator thinks that greater use of imagery with video stimulated recall could help participants provide detail on certain situations. Video stimulated recall has been used successfully in the field of teacher education, as well as in sport psychology (Hackfort, 1993, as cited in Crocker et al., 2002). However, this does not alleviate the concern over measuring emotion and emotion management variables. Possibly asking players to fill in a profile of their emotions with more anchors instead of picking a number would assist them in more accurately assessing their emotion. In addition, a research team member could assist players in completing the report after the game by asking questions and probing. Unfortunately this would have complications such as the time and effort needed to be at every game for multiple participants, and the desire of the participant to be 'one of the guys or gals' while in the locker room after the game. Moreover, participants would most likely be less willing to participate if the investigative team's presence was obvious making confidentiality impossible. Finally, instant messaging software could be used to hold an online discussion with the participant post-game and help them reflect in detail about their experiences. This technique may hold promise and needs to be piloted.

Another limitation is the difficulty in measuring meaningful aggressive behavior change. Stability was difficult to attain as participants fluctuated with each game. Each

game is qualitatively different depending on whom you are playing, the time of season, the score and importance of the game, the mood one has entering the rink, etc. Thus, large fluctuations are almost expected, yet not desirable. To the credit of this program, aggressive behavior was somewhat more stable in the program period. However, participants still have their “blow out” games where they were very aggressive after remaining at a low frequency of aggression for several games.

Furthermore, a limitation exists with the sensitivity of the aggression dependent variable. Statistically, it is very difficult to obtain a significant change in aggressive behavior because of the instability of this behavior and relatively small levels of the dependent variables being measured. Yet, a drop in one mean aggressive behavior from baseline to program is meaningful as that one aggressive behavior could lead to a major injury. Other effect sizes were calculated to show percent change that helped with this issue.

Use of video technology was a limitation in the previous study of this program (Lauer et al., 2003) and continues to limit the ability to assess aggressive behavior despite improvements. A research assistant or parent on the team recorded the games in this study. The best method for recording games was discussed with these individuals yet at times the video is limited not by their expertise but by having only one camera angle. For example, it is difficult to clearly capture all parts of the ice no matter the position taken. The near side corner boards continue to block the view at times. Moreover, if a full ice view was taken of the game, players on the far side of the ice can be difficult to see, thus leading to indiscernible actions. Therefore, the video does not capture all areas of the ice,



or every single moment of a player's shift as he or she leaves the limits of the lens. More effort must be made to develop the best system for recording a hockey game. This will require funding to purchase more equipment, possibly a system for better coding the data, and to pay multiple assistants to record games.

A final limitation is that the coders of the games were separated from the context in which they game occurred. For example, they were not always able to ascertain if a behavior was retaliation to a verbal provocation because audio did not exist. The investigator did attempt to offset this limitation by talking to the participants about their games. Additionally, coding someone's behavior as aggressive is difficult because of the definition used to label a behavior aggressive. For a behavior to be aggressive intent must exist. Yet, intent is very difficult to determine without asking the player about the incident (Widmeyer et al., 2002). And when doing this you will often get socially acceptable answers that the player did not intent to hurt his or her opponent. Players are not necessarily consciously being aggressive with the stick, but stick work has been allowed and reinforced for so long that it becomes legitimized and no longer is viewed as intent to harm. A second situation, when a player intends to harm but misses their opponent is also difficult under the definition of aggression because you have intent, but not physical harm occurs. One could argue that psychological harm occurred, but again one is attempting to interpret the thoughts and feelings of another human being.

Therefore, some behaviors that are unintentional can be recorded as aggressive and vice versa. Because of the difficulty in judging intent, the coders took a hard-line approach while using their knowledge of hockey to determine the aggressiveness of a

behavior. A hard-line approach means that if a player drew his stick back and hit his opponent, then it was slashing. Intent in this case was inferred from the intentional slashing movement. Body checking was also a time where a hard-line approach was taken. If the player used his elbows, forearms, hands, jumped, or checked the head of his opponent then it was coded as aggressive.

If a behavior was considered illegal in the rule book and was an aggressive-looking act (e.g., roughing versus hooking), then it was considered aggressive. At the same time, the coders also attempted to recognize the context of hockey and behaviors that are legitimate. Dorsch, Widmeyer, Paskevich, and Brawley (1996) have recommended that observers should account for contextual information when determining the actor's intentions. For instance, if a behavior appeared to be normal to competition in a collision sport, then it was not coded. For example, the coders discussed at length 'board battles' or situations where two or more players are competing for the puck against the wall. When players are battling for a puck in close proximity to the boards and others, their elbows must come up because their stick is at a decreased angle of lie. Thus, if a player seemed to accidentally elbow a player because he was pulling the stick closer to his body the behavior was not coded as aggressive. This process is very difficult to describe, and requires art as well as science. Therefore, it could be considered a limitation because of the issue of intent.

## Practical Implications

### *The Program as a Template for Future Sport Aggression Reduction Efforts*

The reduction of violence and aggression in sport has been a concern for a number of years. Yet, it seems that the field of sport psychology has done little beyond providing a position statement (Tenenbaum, Stewart, Singer, & Duda, 1997) consisting of guidelines for reducing aggression. Sport psychology has more to offer in terms of expertise in research and outreach that has not been offered to youth ice hockey participants. In this vain, Widmeyer and colleagues (2002) provide a great overview of multiple strategies for reducing aggression. The Playing Tough and Clean Hockey Program can serve as a template for providing consulting services to athletes with a propensity for aggressive behavior. Consultants must be aware when using the program exercises and teaching emotional toughness skills that part of the success exhibited in this study was due to the interaction of the investigator with the participants as discussed in the program evaluation section of this discussion. Moreover, the player's unique history, values, and past and current reinforcement must be understood and integrated into an individualized program.

The development of the program has led to the refinement and successful progression of an emotional toughness skill set, that when practiced with a tough and clean perspective, can lead to a successful reduction in aggressive behavior. Other consultants should review this program critically and determine what works best for their client and then apply it appropriately.

The program has also presented the construct of emotional toughness as a practical way of discussing emotional control that appears to have face validity in youth hockey

communities. 'Touchy-feely' emotions are hard to sell with hockey players who desire a more macho persona. The four participants in this study seemed to accept the notion of emotional toughness as a necessary characteristic of a tough and clean hockey player when presented in the tact of performance enhancement (and not that there is a problem that you have that the consultant will solve). With this in mind, consultants should attempt to be practical and provide concrete strategies when working with youth athletes while being true to the scientific evidence of our field. The concept of emotional toughness and the 3 R's has been successfully adapted and used by the investigator in his consulting practices in tennis and baseball. The consultant must understand the conditions of the sport and adapt these concepts accordingly.

Consultants also must be aware of the source of aggression when intervening. In this program study, participants were interviewed prior to the program to gain an understanding of their past history, values in hockey relative to physical play and aggression, and when they perceived they were aggressive and why. These pre-program interviews were essential in helping the investigator prepare for sessions, and intervene to change attitudes and behaviors. The literature suggests that aggression has many antecedents; however, the greatest sources of aggressive behavior were categorized broadly into the environment, learning, and emotion. Players in this study talked about being most likely to be aggressive when being provoked either directly or to protect a teammate. Thus, self-preservation and revenge were antecedents to aggression. The third source was related to feelings of being harmed, and that was when the officials did not penalize the provoker. This also created feelings of ill will and being taking advantage of,

thus leading to more negative emotions and aggression. These findings were not unlike the results of a retrospective study of professional hockey players' perceptions of aggression (Lauer, 1998).

These three aforementioned sources of self-preservation, revenge, and feelings of being harmed are influenced by the environment, learning, and emotion as proposed the conceptual model forwarded in chapter one of this dissertation. Thus, consultants need to implement different strategies and techniques dependent upon the pattern of antecedents observed when a player is aggressive. The integration of multiple techniques is considered more effective than focusing solely on one modality (Vealey, 1988; Hardy et al., 1996; Crocker et al., 2002). For instance, reducing the player's emotional reactions will not necessarily be effective if a parent is reinforcing aggressive behavior. Consultants should discuss with athletes what creates his or her 'hot button' situations, the accompanying thoughts, feelings, and physical sensations, and then link these antecedents to their aggressive behavior. Then, the consultant will have a good understanding of how best to intervene in each individual case.

#### *Implications for Future Research in Youth Sport Aggression*

This study also has implications for researchers of aggressive behavior in youth sport. Sport aggression should not be viewed as a general domain of behavior. It is much more complex and dynamic than has been represented in sport psychology textbooks. Aggression evolves from internal and external processes; the environment and the person determine the propensity of aggressive behavior. Berkowitz (1989) has argued eloquently that researchers should view frustration more critically than just a direct link to

aggression. For example, many factors predispose one to and mediate the potential for aggressive behavior. What was reinforced in the current study was that players are aggressive for a multitude of reasons, thus, researchers need to look beyond simple theories and measures.

Also of interest to researchers studying aggressive behavior are the different types of aggression. The present findings may have implications for the etiology of aggression. Traditionally, two types of aggression have been defined in the literature - hostile or reactive and instrumental or proactive aggression (e.g., Bandura, 1973; Berkowitz, 1989; LeUnes & Nation, 1990). However, from surveys, observations and interviews garnered in this study it appears while reactive and instrumental aggression exist other forms and gradients are evident. For example, the most severe forms of aggression are hostile but are acts devoid of any feelings of wrongdoing or empathy. It is premeditated and calculated with the purpose of harming another. Morbid examples of this were the Nazi soldiers at the concentration camps during World War II. Without remorse they participated in genocide of the Jewish race. In sport these situations are very rare, and were not exhibited in the study. Yet, there are certain individuals in sport who enjoy hurting others with seemingly little remorse. Another type of aggression involves the intent to harm but is more of a conditioned reaction of the athlete where they simply lash out without consciously thinking because they have been conditioned to do so. However, they realize doing so is wrong. Then, the third form of aggression is an instrumental form that is proactive and learned through modeling and reinforcement (Bandura, 1973).

Instrumental aggression is for the purpose of achieving one's goal, but the pursuit of the goal harms others. This form is often legitimized in youth ice hockey (Smith, 1983).

An interesting question that has not been discussed in sport psychology is if a person could have degrees of each of these types of aggression. Specifically, when one is aggressive it may have often been done for multiple reasons or goals (Bushman & Anderson, 2001). A hockey player could be aggressive for the purpose of attaining the puck (i.e., instrumental), while also exacting revenge for an earlier transgression (i.e., premeditated). Bushman and Anderson (2001) state that the distinction between hostile and instrumental aggression is confounded by the faulty notion that it is a dichotomy, and that it does not include aggressive acts with multiple motives. Thus, researchers should start to think about aggression on a continuum and that types of aggression are inclusive, not exclusive. A more detailed account of this argument is made by Bushman and Anderson that relates to the Knowledge Structure approach to studying aggression. Basically, people develop schemas and scripts that influence how they perceive the world, and responses to complex or affective decisions can become automated with frequent activation of the knowledge structure. Therefore, a hostile aggressive person has a hostile aggressive script for situations that happen to them which can include instrumental motives. Thus, Knowledge Structure approach supports the notion that by simply thinking of aggression as a simple instrumental versus reactive dichotomy is not enough. Sport scientists need to think of aggression in more complex and interactive fashions.

The major and minor aggression findings reveal that not all aggression is equal in severity and intent to harm, and thus should not be treated the same as Kirker and colleagues (2000) have also reported. For example, hockey players often use their stick to tie up their opponent in front of the net while covering them and watching the puck. This sometimes led to a slashing motion that could be considered instrumentally aggressive. Harm was not the intent, but it was used to gain a performance advantage. On the contrary, major aggressive acts often involved overly rough checks using the elbows or putting the hands and forearms into the face or head of the opponent. The severity of the act was great enough to consider it major even though it was difficult to judge if the aggressor was attempting to harm his opponent. This has major implications for how sport science researchers study aggression, and how sport psychologists intervene with aggressive athletes. Researchers must conceptualize aggression as more complex than it is viewed now and measure more than penalties (Widmeyer & Birch, 1984) and global rates of aggression. When measuring aggression researchers need to categorize the acts with some understanding of what constitutes major and minor aggressive behavior in that sporting context. For instance, slashing in sports like hockey and lacrosse are considered minor, whereas if a baseball player “slashed” another player with his bat it would be considered a very violent act. This may be an exaggerated example, yet we must understand what acts are more severe in the context that they take place and then measure them appropriately.



## Future Directions

Much work is yet to be done in developing interventions that reduce aggressive behavior in youth sport athletes. Relative to the Playing Tough and Clean Hockey Program the future directions are to continue to evaluate its effectiveness and broaden its impact.

### *Future research*

Although this current study tentatively revealed the program was effective in reducing aggressive behavior and enhancing emotional management skills, more research is needed. Specifically, follow-up studies should be conducted with participants of the program to assess their maintenance of skills. Are they able to play tough and clean hockey the next season? Do they continue to possess emotional toughness or revert back to responding negatively to their emotions? What strategies assist players in maintaining and improving their emotional toughness? How does the 3 R's change as players master it and overlearn it?

In addition, a more encompassing intervention model must be developed to account for the role of significant others and measure life experiences. How one's mood off the ice affects one's aggressive behavior on the ice needs to be investigated. Moreover, how experiences in hockey and particularly this program affect school work (i.e., grades, teacher reports), relationships with parents and friends, and the ability to resolve conflicts peacefully should be examined. This would provide evidence that the program influenced participants outside of the rink which is an issue rarely studied in youth sport research.

Further formative and summative evaluation research of the Playing Tough and Clean Hockey Program is needed. Participants and their parents will be interviewed to discuss the program's effectiveness. These interviews will also serve the secondary purpose of developing the role of the parent in the program to a greater degree. The influence of parents, coaches, and teammates should be examined when assessing aggressive behavior with a hockey player.

More research is also needed to generalize the concept of emotional toughness to a greater number of hockey players, other age groups, and to other sports. In addition, other variables of interest should be measured including the identification of tough and clean behaviors exhibited during games and an assessment of the change in this behavior from baseline to program. Continued research of the 3 R's routine is also needed, especially how it works for different players. Stronger measures of emotions and aggressive feelings experienced during games need to be developed that more accurately capture what is happening on the ice. The same can be presented about players' perceptions of what is happening when they are emotionally tough, tough and clean, and dirty and aggressive. New procedures must be developed to better measure these variables without interfering with players' competitions. Video stimulated recall holds promise, but needs to be further developed to best help athletes retrieve their on-ice experiences.

More control must be applied to show internal validity of the program effect. One great idea was brainstormed by a senior doctoral student in the Department of Kinesiology at Michigan State University and experienced hockey coach who served as video coder. The idea was to take a player not in the study, who is a teammate of a

participant, that we consider the average player relative to frequency of aggressive behavior. Then, we would code and record his aggressive behaviors throughout the season to provide a constant to show relative aggression per game. This presents a measure of control over how aggressive the game was as a whole. One can expect that players will be more aggressive when the other team is a rival, and/or is aggressive. This procedure provides a comparison for the participant in the program. An even stronger control would be to tally all aggressive behaviors and divide the total by the number of players on the team, again providing a relative constant for each game. In this way, one could also determine how players' levels of aggression fluctuated during the course of a game and a season to understand the influence of score, period, and time of season on aggression. It would also reveal how our target participant was progressing relative to the rest of his team. Finally, external validity must be shown by including a stronger multiple baseline design with staggered start dates.

#### *Broaden the Impact of the Playing Tough and Clean Hockey Program*

Coaches, family, and teammates influence the aggressive attitudes and behaviors of youth hockey players (Stephens, 2001; Smith, 1983; Vaz, 1982; Clark et al., 1978). A more effective intervention will account for these environmental factors and attempt to change them. Specifically, parents, coaches, and teammates could be involved in a team-wide or organization-wide Playing Tough and Clean Hockey Program. For example, one cannot overlook the importance of the coach in this process. Fortunately, participants in the current study had coaches who held a healthy perspective on youth sport. Aggression was punished and sportsmanship was emphasized and reinforced. Although the

investigator did not need to educate the coaches in this study for it to be effective, coaches that hold alternate perspectives on aggression in hockey would limit program effectiveness. The program's conceptual model should include the important role of the coach and integrate an educational component for coaches. Therefore, the roles of parents and coaches should be identified and discussed with them. Education of emotional toughness and tough and clean hockey would help coaches and parents reinforce the messages taught in the program, and more importantly, espouse a healthy perspective on youth sport.

The time has come for the program to be distributed to more players to not only assess its effectiveness, but to make the game safer for its participants. Thus, the investigator is suggesting the next steps with the program to be:

- An executive summary report and presentation for the USA Hockey Safety committee.
- Development of Playing Tough and Clean Hockey and emotional toughness materials that are distributed to all registered USA Hockey participants.
- The conducting of the program with other youth ice hockey players of bantam age to further generalize its effectiveness, including camps and other venues where players convene for multiple days at a time.
- The implementation of the program with highly aggressive players. Possibly a system could be established where a player that receives multiple misconducts for aggressive play is sent to the program before he is allowed to continue to play.

- Education of coaches about emotional toughness and tough and clean hockey at coaching education clinics.
- Parent education clinics to deliver core program content and how the parent is influential.
- Creation of a 'coaching on the run' version of program to teach to coaches who then implement the program content and skills with their team in 15-20 minute mini-sessions.
- Attempting to work with whole teams in group and individual sessions, including working directly with captains on removing a norm of aggression.
- The implementing of the program in conjunction with an on-ice effective checking clinic.
- The developing of tough and clean competition materials for other youth sports, especially physical sports such as football and basketball.

It is believed that this program can be successful not only with bantam-aged ice hockey players, but with players of all ages. Specifically, the program should be implemented with:

- Midgets (15 – 18 years old), Juniors, and Collegiate hockey players, and,
- Pee Wees (11 and 12 year olds) when first starting to learn to check.

Finally, the investigator believes that the officials could help in the process of making the game safer by penalizing all aggressive actions thus removing the main source of reinforcement. A discussion should be held with the USA Hockey referee-in-chief to see if an emphasis can be placed on calling the games tighter. Video of incidences where

consecutive aggressive acts that were not called led to major aggressive acts would be shown to the referee-in-chief to persuade him of the need to call more penalties. A mandate from USA Hockey would help to clean up the game.

## Summary

### *Lessons Learned*

The investigator learned a great deal that cannot be written in this dissertation. These lessons reinforced aspects of hockey aggression that investigator knew tacitly, but needed to keep more at the forefront of his thoughts. Some of the more poignant lessons are listed below.

- Players often are in control when winning, however, when losing they are more likely to be aggressive. Several participants actually discussed how losing is a precursor to aggression.
- Players were obviously aggressive more often when their opponent provoked them. This rebuts the old hockey myth that a player must stand up for himself, and then opponents will leave him alone. The lesson is that aggression begets aggression (Berkowitz, 1973).
- Players are all unique in the past history of aggression, their values of physical play and in hockey, and their social environment. Knowing the context surrounding the player will greatly help a consultant reduce aggression.
- The physical game of hockey and hitting can be enjoyable for youth hockey players. Morally it may seem that all hitting has intent to hurt others embedded in it, yet from the investigator's experiences and discussions with hockey players

(and in other combative sports such as football and rugby) hitting does not have to include an intention to harm someone else. In fact, it is a skill that can be used to play better hockey if executed appropriately.

### *Summary of the Findings*

The Playing Tough and Clean Hockey program was successful in many ways. First, participants felt they improved because of their participation and enjoyed the program. Second, moderate support was revealed for the effectiveness of the program relative to enhancing emotional control, emotional toughness, and tough and clean hockey. In addition, reductions in aggressive behavior to some degree were demonstrated for each participant. Third, the formative evaluation revealed that the program is a viable method for intervening with aggressive youth ice hockey players. Fourth, the effectiveness of the 3 R's was supported (as well as other emotional toughness skills), and provides evidence that it is a valuable on-ice routine for reducing aggression and refocusing to playing hockey. Fifth, external validity was not demonstrated for two reasons, (1) the time constraints placed on the study did not allow for a full multiple baseline design, and, (2) a delayed program impact on hard to change attitudes and behaviors did not permit immediate effects during the staggered baseline period. Sixth, several new dependent variables of interest were developed and with further refinements in measurement will greatly help the investigator study hockey aggression in the future.

### Conclusion: It is Time to Play Tough and Clean Hockey

The Playing Tough and Clean Hockey Program has provided a starting point for sport psychology professionals to help youth hockey players reduce their aggression and be emotionally tough in adverse situations. Yet, much work it is to be done.

A 14 year-old boy was playing hockey the game he loved more than any other game he played. He was still learning the game, but was good enough to compete with the older players. In a pick-up game with some 15 year-old boys, the boy was playing great and had a couple of goals. He was about to score another goal in front of the net when an opponent cross-checked him in the back to take away the puck. The boy was frustrated, “Why would he do that to me?” He skated down the ice and slashed the older boy that cross-checked him in front of the net. The older boy proceeded to punch him in the face. The two boys began pushing each other forcing play to stop. The boys separated and the younger boy thought after sitting down on the bench, “That really took the fun out of today’s game for me. I think I’ll go home.”

The lead investigator has been at times both boys represented in the story, often as the aggressor. The story above characterizes how one incident leads to many more exaggerated incidences, and takes the fun out of hockey. Unfortunately, players do not often think before they react, and appear to be very unaware of their cognitions and emotions that lead to aggressive behavior. A lack of awareness allows aggressive behavior to continue to happen. Players do not think about many of their aggressive behaviors because they are focused on the game, as was explained to the investigator by participants in this program study. However, once they talked about what they had done



to someone they felt guilty. If players can enhance their awareness of how they are harming others while they play it is more likely that they would stop, if they are provided the emotional toughness skills needed to do so on the ice. As sport psychology professionals we need to make players more aware, more empathetic, and teach them the emotional toughness skills to be successful. This requires increased awareness training and changes in views about legitimacy of aggression not only in players, but in teammates, peers, siblings, parents, coaches, administrators, and officials. If we can successfully make players aware of the harm that a cross-check creates and that the negative consequences truly do outweigh the positive ones, a reduction in aggressive behavior across teams and leagues can be achieved. Combine this with emotional toughness training for those that are more reactive aggression players and a great reduction in aggression could be obtained. This places the focus back on changing the game so it is safe and its participants are learning to have character, not be characters!

To achieve the goal of reducing youth ice hockey aggression, players, parents, coaches, administrators, officials, and sport psychology professionals must get on board. Players must take a tough and clean hockey perspective, be more aware of their personal antecedents to aggression, and make the effort to learn, practice, self-regulate, and self-monitor their emotional toughness. Coaches must teach appropriate body checking and be aware of their potential influence in teaching and facilitating aggressive behavior. Parents must recognize that they can support tough and clean hockey or dirty and aggressive hockey. Officials must step-up and begin to penalize offenders so that the performance advantages gained from aggression are eliminated. Administrators must make an effort to

educate and enforce rules and codes of conduct. Finally, sport psychology professionals must continue to study aggression in hockey and in sport, and then apply these findings to intervention attempts with aggressive young hockey players. Therefore, this is a challenge to all parties to step up to the plate and begin to eliminate aggressive behavior in youth ice hockey, while maintaining the physical and emotional aspects of the game that make it so much fun for youth hockey players. It will take all members of the hockey community working together to achieve this lofty goal, but this is one person who believes that it can be achieved with great effort and commitment. The same great effort and commitment the four young men in this study exhibited to make themselves better hockey players and better people.

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## APPENDIX A

### Heuristic Model of Ice Hockey Aggression and Performance

| Antecedents----->   | Aggression----->  | Mechanisms Enhancing Performance ---->   | Performance  |
|---|---|--|--|
| <b>Personality</b><br><b>Biological factors</b><br><b>Emotion</b> <ul style="list-style-type: none"> <li>• Frustration</li> </ul> <b>Social learning</b> <ul style="list-style-type: none"> <li>• Social support/Reinforcement</li> <li>• Parent's sanctions</li> <li>• Coach's sanctions</li> <li>• Teammate's sanctions</li> </ul> -Social Organization of Hockey System <ul style="list-style-type: none"> <li>• Informal Norms</li> <li>• Aspirations of pro hockey</li> </ul> -Mass media portrayals <ul style="list-style-type: none"> <li>• Modeling</li> </ul> -Game reasoning/Bracketed morality <ul style="list-style-type: none"> <li>• Values and objectives of hockey</li> <li>• Lack of respect for rules and officials</li> </ul> -Competition<br><b>Arousal – Environmental Factors</b> <ul style="list-style-type: none"> <li>• Heat, Noise</li> </ul> <b>Sport Structure</b> <ul style="list-style-type: none"> <li>• Game score/differential</li> <li>• Standings differential</li> <li>• Winning/Losing</li> <li>• Home/Away</li> </ul> <b>Individual Differences</b> <ul style="list-style-type: none"> <li>• Socioeconomic status</li> <li>• Age</li> </ul> | Provoked/Unprovoked<br>Direct/Indirect<br>Physical/Verbal<br>Adaptive/Maladaptive<br>Hostile/Instrumental | <b>Mechanisms Enhancing Performance</b><br>Intimidation<br>Harm opponent physically & psychologically<br>Improve process of group<br>Draw a highly skilled player into fighting<br>Opponent's focus on revenge from performance<br>Energize collective effort<br>Strengthen existing bonds & establish new ones<br>Increased arousal<br>Protect weaker teammates<br><br><b>Mechanisms Inhibiting Performance</b><br>Decreased concentration<br>Penalties resulting in shorthanded situations | Goals/Assists<br>Points<br>Shots on goal<br>Penalty minutes<br>Perceptions of<br>Improved<br>Performance |

From Lauer (1998).

## APPENDIX B

Playing Tough and Clean Hockey Program (Individual Version)

# Playing Tough and Clean Hockey

(Abbreviated Program Version)



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# My 3 R's Routine



1. Respond:



---

2. Relax:



---

3. Refocus:



---

# Playing Tough and Clean Hockey

## Program Content

| <i>Shift #</i> | <i>Content/Activity</i>  | <i>Page Number</i> |
|----------------|--|--------------------|
| <b>Warm-up</b> | <b>Program Introduction: Playing Tough and Clean Hockey</b>                                  | 274-275            |
| I.             | What Does Playing Tough & Clean Hockey Mean to You?  | 274                |
| II.            | Game Plan (Program Purposes)   | 274                |
| III.           | Goals  | 274                |
| IV.            | Benefits You Can Gain from the Program   | 274                |
| V.             | Skills that You will Use   | 274                |
|                | Commitment Page  | 275                |
| <b>1</b>       | <b>Playing Tough and Clean Hockey</b>  | 276-280            |
| I.             | Tough and Clean Hockey vs. Dirty and Aggressive Hockey: What is Dirty and Aggressive Hockey? | 276                |
| II.            | Have You Ever Been Injured from Playing Hockey?  | 276                |
|                | Tough vs. Aggressive Hockey Worksheet  | 277                |
| III.           | Positive & Negative Consequences of Dirty and Aggressive Behavior Worksheet:                 | 278                |
|                | Negative Consequences of Aggressive and Dirty Play   | 279                |
|                | At Home Activity #1: Learning from the Pros  | 280                |
| <b>2</b>       | <b>Understanding Emotions &amp; Emotional Toughness</b>                                      | 281-284            |
| I.             | Emotions in Hockey   | 281                |
|                | Model of Emotion and Aggression  | 281                |
| II.            | Emotions: You have control   | 282                |
| III.           | Emotional Toughness  | 283                |
| IV.            | 1 <sup>st</sup> Emotional Toughness Skill: Controlled Breathing                              | 283                |
|                | Toolbox: Controlled Breathing  | 283                |
|                | At-Home Activity #2: Emotional Toughness Skills Practice: Controlled Breathing               | 284                |
| <b>3</b>       | <b>Developing Emotional Toughness Steps 1 &amp; 2: The 3 R's</b>                             | 285-291            |
| I.             | What is Emotional Toughness?   | 285                |
| II.            | 4 Steps to Developing Your Emotional Toughness   | 285                |
|                | Toolbox: The 3 R's for Refocusing  | 286                |
|                | Step 1: Responding Positively to Your Emotions   | 287                |
|                | The First "R": Respond   | 287                |

| <i>Shift #</i> | <i>Content/Activity</i>  | <i>Page Number</i> |
|----------------|--|--------------------|
|                | Step 2: Identifying Your Personal Hot Buttons in Hockey                                    | 287-288            |
|                | Emotional Toughness Exercise: Refuting and Replacing Aggressive Thoughts                   | 289-290            |
|                | At-Home Activity #3: Logging Your Hot Button Situations                                    | 291                |
| <b>4</b>       | <b>Developing Emotional Toughness Steps 3 &amp; 4: The 3 R's</b>                           | 292-298            |
| I.             | Review: What are the 3 R's?  | 292                |
| II.            | The Second "R": Relax  | 292                |
|                | 2 <sup>nd</sup> Emotional Toughness Skill: Centering (On-Ice Emotional Toughness)          | 292                |
|                | Toolbox: Centering   | 293                |
| III.           | The Third "R": Refocus   | 293                |
|                | Step 3: Rewiring Your Hockey Hot Buttons   | 294-295            |
| IV.            | Transferring 3 R's to Games – "Stick It"   | 295                |
|                | At-Home Activity #4: Emotional Toughness Skills Practice: Centering Log                    | 296                |
|                | At-Home Activity #5: Emotional Toughness Skills Practice: 3 R's Visualization Log          | 297                |
|                | My Working 3 R's Routine   | 298                |
| <b>5</b>       | <b>Understanding Energy, Stress, &amp; Emotion</b>   | 299-302            |
| I.             | What is Energy?  | 299                |
| II.            | How Does Energy Affect Me?   | 299                |
| III.           | What is Stress?  | 300                |
| IV.            | How Does Stress Affect Me?   | 300                |
| V.             | What Can I Do to Deal with Stress?   | 300                |
| VI.            | Why use Energy and Stress Strategies?  | 300                |
| VII.           | Emotional Management Outside of Hockey   | 301                |
|                | Step 4: Game Plan: Training Your Emotional Toughness                                       | 301                |
|                | At-Home Activity #6: Post-Practice Reflection: What I Learned from My 3 R's Practice Today | 302                |
| <b>6</b>       | <b>Rethinking what is Stressful</b>  | 303-305            |
| I.             | Game Video Review  | 303                |
| II.            | Rethinking What You Think is Stressful   | 303                |
| III.           | Imagery of Your 3 R's Routine  | 303                |
| IV.            | What is Good Imagery?  | 304                |
| V.             | How do I use Imagery?  | 304                |



| <i>Shift #</i> | <i>Content/Activity</i>  | <i>Page Number</i> |
|----------------|--|--------------------|
|                | At-Home Activity #7: Imagery Practice of 3 R's Log   | 305                |
| <b>7</b>       | <b>3 R's Practice/Being My Own Teacher</b>   | 306-               |
|                |  | 309                |
|                | Post-Practice Reflection: What I Learned from My 3 R's Practice  | 306                |
|                | Today  |                    |
|                | Game Video Notes   | 307                |
| I.             | Being My Own Teacher   | 308                |
| II.            | How Do I Become My Own Teacher?  | 308                |
|                | What am I Going to Do to "Play Tough and Clean Hockey" over the next 2 weeks?                                    | 309                |
| III.           | Commitment   | 309                |
| <b>8</b>       | <b>3 R's Practice/Emotionally Tough in All Walks of Life</b>   | 310-               |
|                |  | 312                |
|                | Post-Practice Reflection: What I Learned from My 3 R's Practice  | 310                |
|                | Today  |                    |
|                | Game Video Notes   | 311                |
| I.             | Emotionally Tough in All Walks of Life   | 312                |
| II.            | My Goals for Using My Skills in Life   | 312                |
| <b>9</b>       | <b>The Final Buzzer &amp; Where to Next?</b>   | 313-               |
|                |  | 314                |
| I.             | You Have Learned Emotional Toughness Skills  | 313                |
| II.            | Continuing to Use Your Emotional Toughness Skills  | 313                |
| III.           | Playing Tough and Clean Hockey: Now It's Your Responsibility to Continue to Practice Emotional Toughness Skills! | 314                |
|                | What am I Going to Do to Play Tough and Clean Hockey?  | 314                |
|                | LOGS   | 315-               |
|                |  | 319                |
|                | Centering Log  | 315                |
|                | 3 R's Visualization Log  | 316-               |
|                |  | 317                |
|                | Post-Practice Reflection: What I Learned from My 3 R's Practice  | 318-               |
|                | Today  | 319                |

# Playing Tough and Clean Hockey

## Warm-up: Program Introduction

### I. What does “*Playing Tough and Clean Hockey*” mean to you?

---

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### II. Game Plan

- To enhance your ability to “*Play tough and clean hockey.*”

### III. Goals

- To learn emotional control strategies.
- To use emotional control strategies in practices and then games.
- To help you play better hockey and have fun!

### IV. The Benefits You Can Gain From the Program:

- Better performance because you will be focused on playing the game (you won’t miss scoring opportunities as often, you will be in position more often, and you will spend less time in the penalty box. ),
- Your own **3 R’s Routine** to refocus on playing the game (rather than retaliate),
- The ability to relax under pressure,
- Improved on-ice **emotional toughness** – putting you in control of how you want to respond to challenging on-ice situations,
- Increased respect for everyone on the ice including teammates, opponents, and referees,
- The ability to “*Play tough and clean*” in any situation.

### V. Skills that You will use include:



- The **3 R’s** routine of respond, relax, and refocus
- Controlled Breathing
- Tough and Clean Thoughts
- Centering
- Imagery

## Playing Tough and Clean Hockey

### My Commitment to You

I will commit to assisting you in becoming even more emotionally tough and playing tough and clean hockey. I am at your service, and this means:

- Being on time for sessions;
- Being prepared for sessions;
- Being open and honest with you;
- Being non-judgmental about your thoughts or feelings;
- Keeping our conversations private;
- Listening with full focus; and,
- Making every effort to help you be successful.

Larry Lauer, MS

\_\_\_\_\_ (sign on the line)

### Your Commitment to the Program

I agree to participate in the Playing Tough and Clean Hockey Program and to make every effort to learn and improve as a player and as a person. I am committing to:

- Being at every session on time;
- Coming to sessions prepared – have my binder, a pencil, and assigned work;
- Being open and honest;
- Talking about and discussing previous games and my progress in playing tough and clean hockey;
- Practicing my emotional toughness skills regularly;
- Treating this program just like practice – if I have a conflict I will let Larry know ahead of time; and,
- Making a genuine effort to play tough and clean hockey and to learn the skills in this program.

\_\_\_\_\_ (print name on the line)

\_\_\_\_\_ (sign name on the line)

“The price of success is hard work, dedication to the job at hand, and the determination that whether we win or lose, we have applied the best of ourselves to the task at hand.”  
(Vince Lombardi, Green Bay Packers coach)

## SHIFT #1: Playing Tough and Clean Hockey

### Tough and Clean vs. Dirty and Aggressive

#### I. What is Dirty and Aggressive Hockey?

A. Dirty and aggressive hockey involves physical or verbal behavior intended to harm another player. Aggression is **OUTSIDE THE RULES** and the **WRONG THING TO DO!**

B. *Playing Tough and Clean* means playing assertively within the rules.




C. In your words *Playing Tough and Clean* means:



---

D. There are two types of dirty and aggressive play.

1. Calculated, cold, done for a reason type of aggression.
2. In retaliation, blew your cool type of aggression.

E. The following behaviors are examples of aggression because they hurt others and hurt you:

-  Slashing
-  Fighting
-  Checking from behind

-  Spearing
-  Swearing/Verbal abuse at teammates or opponent

#### II. Have you ever been injured from playing hockey?

- How did it feel?



|       |         |               |      |               |
|-------|---------|---------------|------|---------------|
| Great | No pain | A little pain | Hurt | A lot of pain |
|-------|---------|---------------|------|---------------|

- Have you ever hurt someone else? How much pain do you think they were feeling?

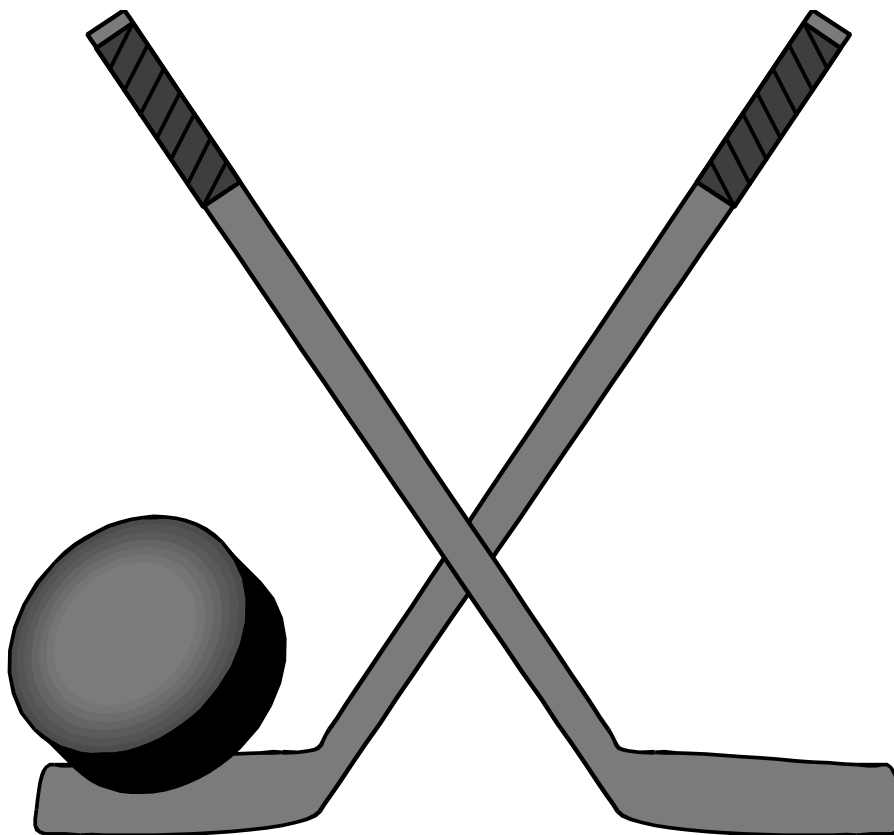


|       |         |               |      |               |
|-------|---------|---------------|------|---------------|
| Great | No pain | A little pain | Hurt | A lot of pain |
|-------|---------|---------------|------|---------------|

# **Tough vs. Aggressive Hockey**



**What does it mean to play tough and  
clean?**



### III. Positive & Negative Consequences of Dirty and Aggressive Behavior

A. \*Please List the Positive and Negative Things that Occur from Dirty and Aggressive Play

| Positive Consequences |  | Negative Consequences |  |
|-----------------------|--|-----------------------|--|
| 1                     |  | 1                     |  |
| 2                     |  | 2                     |  |
| 3                     |  | 3                     |  |
| 4                     |  | 4                     |  |
| 5                     |  | 5                     |  |
| 6                     |  | 6                     |  |
| 7                     |  | 7                     |  |
| 8                     |  | 8                     |  |
| 9                     |  | 9                     |  |
| 10                    |  | 10                    |  |

*What do you think happened after this play?*



*A Penalty and an Injured Player!*

## B. Negative Consequences of Aggressive and Dirty Play include:



Increased paralyzing injuries and even death



Increased rates of injury



Increased stress



Decreased skill development (in penalty box, more focused on retaliating)



Increased player dropout



Increased penalty minutes



Decreased performance



Decreased chances of winning



Decreased fun



***“Losing emotional control can cost you, your team, and your opponent!”***

***Play Hockey Tough, and Play It Clean!***

**\*We will do this by learning to control our emotions and on-ice behaviors**

## At-Home Activity #1: Learning from the Pros

### Directions:

- Watch a professional hockey game this week.
- Find 5 or more aggressive and dirty behaviors that we talked about and are listed on the previous page.
- When you see an aggressive, dirty behavior look for the result of that behavior – how does the player receiving the aggressive and dirty shot react?
- Then, write the type of aggressive, dirty behavior (for example, slashing, fighting, check from behind) in the first column.
- Next, put an “X” in the columns that explain what happened as a result of the aggressive behavior (player was cut, bleeding, knocked out, etc.).
- An example is listed in the first row.

The Game I watched was: \_\_\_\_\_ vs. \_\_\_\_\_ Date: \_\_\_\_\_

### The Result of the Dirty Aggressive Play was a player was:

| Type of Dirty Play          | Cut | Blood | Knock<br>-ed<br>Out | Laying<br>on the<br>Ice | Missed<br>part of<br>the game | Penal-<br>ized for<br>Retal-<br>iating | Nothing<br>Happen<br>-ed | Led to a<br>Goal or<br>Got the<br>Puck |
|-----------------------------|-----|-------|---------------------|-------------------------|-------------------------------|--|--------------------------|--|
| <i>Checking from behind</i> |     |       | X                   | X                       | X                             |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |
|                             |     |       |                     |                         |                               |  |                          |  |

Types of Dirty Plays include:

Slashing

High Sticking

Tripping

Fighting

Roughing

Butt-ending

Elbowing

Check from behind

Cross-checking

Unsportsmanlike Conduct

Head butting



## SHIFT #2: Understanding Emotions & Emotional Toughness

### I. Emotions in Hockey

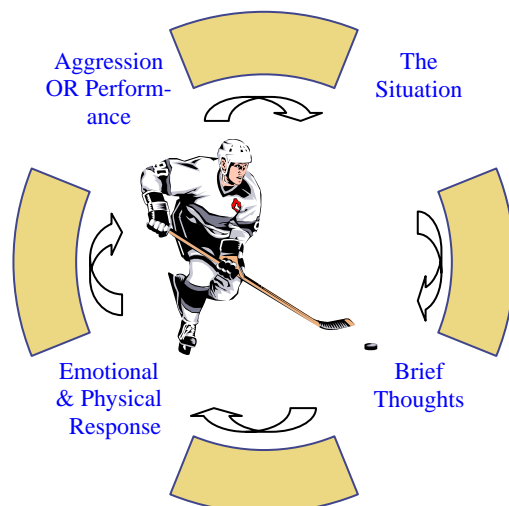
#### A. What are emotions?

1. Emotions are powerful, momentary feelings that feel automatic & out of your control.
2. Two components to emotion:
  - a. The type of emotion (happiness, sadness, anger, excitement)
  - b. The intensity or strength of that emotion (a little happy versus ecstatic)

#### B. Why are emotions important?

1. Emotions make the game fun, give us energy, and are a part of the ebb and flow of the game.
2. Emotion can also have negative consequences such as aggression and decreased performance.
3. “Emotion is an athlete’s greatest obstacle in sports because they are so forceful and immediate” (Taylor, 2000).
4. Players are guided by their emotional reactions (Taylor, 2000).

### Model of Emotion and Aggression



**"Whoever loses emotional control first loses the competition." (Taylor, 2000)**

## II. Emotions: You Have Control

A. What are positive emotions (what are some examples)?

---

B. What are negative emotions (what are some examples)?

---

C. What is the value or benefit of feeling each of these emotions in hockey?

|            |        |
|------------|--------|
| Emotion 1: | Value: |
| Emotion 2: | Value: |
| Emotion 3: | Value: |
| Emotion 4: | Value: |
| Emotion 5: | Value: |
| Emotion 6: | Value: |

D. What emotions do you have when you are dirty & aggressive?

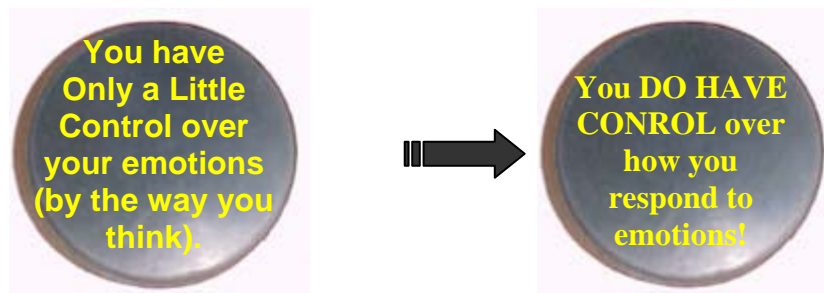
---

E. A loss of *Emotional Control* means you are unable to restrain emotions, which negatively influences hockey performance.

F. What happens when you lose *Emotional Control*?

---

---



**III. Emotional Toughness** – is like your emotional armor. You feel emotions, but you don't allow them to control behavior. You control your reaction and use emotions to your advantage!

1. Emotions can help or hurt performance.
2. Strong emotions are natural, and they feel automatic.
3. Think about and choose effective responses.
4. **Key:** *Avoid automatic physical responses to negative emotions; you must keep your cool!*

#### **IV. 1<sup>st</sup> Emotional Toughness Skill: Controlled Breathing**

A. **Controlled Breathing** – a technique used to quiet your mind and release tension by breathing deeply and in a rhythm.

#### ***TOOLBOX: CONTROLLED BREATHING***

- **Get into a comfortable position.**
- **Inhale deeply and slowly through the nose for 3 seconds.**
- **Fill the stomach (abdomen) with air instead of the chest.**
- **Exhale slowly from the mouth for 5 seconds.**
- **Count 1-3 (inhale), 1-5 (exhale) to develop a rhythm.**
- **As you exhale say a word that will help you relax like “cool”, “chill”, or “calm.”**
- **Continue controlled breathing 3-5 minutes.**

B. You can use controlled breathing during practices and games (during a stoppage in play or on the bench) to:

- (1) To gain your breath quickly and recover from long shifts or drills,
- (2) Reduce tension in big games,
- (3) Fuel your effort (using more oxygen), and
- (4) Regain emotional control when your opponent takes a shot at you.

C. My breathing word is: \_\_\_\_\_

I will practice controlled breathing for 5 minutes @ the following times each day:

\_\_\_\_\_  
\_\_\_\_\_

## At-Home Activity #2: Emotional Toughness Skills Practice: Controlled Breathing

**Directions:** Please use the directions on the previous page to practice controlled breathing and relaxation twice per day. Practice it in the morning and at night before you go to bed. Before starting, write in the day and date and answer the first 2 columns. Then do your practice. Afterwards, write down how it went. Please circle your response.

| Trial | DAY<br>&<br>DATE | <u>Before Strategy:</u><br>How tense are<br>you? | <u>Before Strategy:</u><br>How worried are<br>you? | <u>After Strategy:</u><br>How tense are<br>you? | <u>After Strategy:</u><br>How worried are<br>you? | Rate Your<br>Controlled<br>Breathing |
|-------|------------------|--|--|---|---|--------------------------------------|
|       |                  | not at all<br>some<br>very tense                 | not at all<br>some<br>very worried                 | not at all<br>some<br>very tense                | not at all<br>some<br>very worried                | awful<br>ok<br>awesome               |
| 1     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 2     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 3     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 4     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 5     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 6     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 7     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 8     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 9     |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |
| 10    |                  | 1 2 3 4 5  | 1 2 3 4 5  | 1 2 3 4 5                                       | 1 2 3 4 5   | 1 2 3 4 5                            |

Look at your answers. What numbers are really high?

---

What numbers are really low?

---

## **SHIFT #3: Developing Emotional Toughness**

### **Steps 1 & 2: The 3 R's**

#### **I. What is Emotional Toughness?**

---

#### **II. 4 Steps to Developing Your Emotional Toughness**

**Step 1: Respond positively to your emotions don't bottle them up**

**Step 2: What are your "Hot Buttons"?**

- A. Identify your hot buttons (weak spots in emotional armor)
  - Situations that always trigger strong negative emotional reactions
  - There are sometimes immediate thoughts that create your emotions

**Step 3: Rewire your "Hot Buttons"**

- A. Emotional toughness means choosing a new, effective response

**Step 4: Developing a plan for On-Ice Emotional Toughness**

- A. Refocus if you get upset
  - Set a plan for times when you get distracted, frustrated, angry, etc.

#### **Emotional Toughness Quote**

**"You don't want to retaliate, and that's where controlling emotions comes into play..."**

(Ex-Phoenix Coyotes Coach Bob Francis, ESPN.com, Oct. 18, 2003)

## TOOLBOX: The 3 R's for Refocusing

3 R's

### 1. Respond

### 2. Relax

### 3. Refocus

1. **Respond** – emotions cannot be bottled up; respond positively, but don't let them take over



- When the negative emotion occurs, feel the emotion but don't allow it to control your actions
- **Accept the emotion** for what it is. Remember, all emotions are helpful if we respond in a positive way to them.
- **Goal:** Respond constructively to deal with the moment.

Examples: when you are frustrated because of tight checking or angry at being hip checked, express annoyance by saying, “that didn't hurt”, “darn”, “shoot”, etc. (**POSITIVE!**)

2. **Relax** – negative emotions occur; your next step is to calm down immediately



- **Goal:** Have a method for releasing extra energy and emotion:
  - a. *Centering breath* – fill up the abdomen with air and release through the mouth
  - b. *self-talk* or *mental cue* – “calm”, “relax”, “cool”
  - c. *visualization/imagery* of responding in a positive manner

3. **Refocus** – return to play as quickly as possible



- Staying angry or frustrated will hurt your performance (ruins the fun of playing the game and playing it well)
- Redirect aggressive energy to positive behaviors (“backcheck”, “hustle more”, “push”)
- Use a cue word to get back in the present (e.g., “move on”, “let's go”)
- **Goal:** Refocus back on playing hockey immediately.

Adapted from Murphy, S. (1996). The achievement zone: 8 skills for winning all the time from the playing field to the boardroom. (The Sixth Skill). G. P. Putnam's Sons: New York.

Orlick, T. (1990). In pursuit of excellence. (Gaining Control). Leisure Press: Champaign, IL.

## ***STEP 1: Responding Positively to Your Emotions***

### **I. The First “R”: Respond**

- A. Hockey is a tough game full of emotion. You cannot allow the emotion to control you, you will control the emotion.
- B. The goal is to have a positive response to any hot button or otherwise aggression-provoking situations.
- C. The first thing you need to do is accept your emotions. Emotions are a part of the game and there is nothing you can do about it.
- D. You can, however, control how you respond. This is where you will use the 3 R’s.



## ***STEP 2: Identifying Your Personal Hot Buttons in Hockey***

### **Directions:**

- Please complete this worksheet to determine what situations cause you to have a strong, negative emotional reaction.
- First, identify a non-hockey hot button (situations that always cause you to have a negative emotional response) in your life.
- Second, identify a hot button in hockey.
- Third, answer questions 3-6 on your personal hot buttons.

**1. My Hot Button in my *general life* is:**

**2. My *Hockey Hot Button* is:**

**3. What events usually lead up to your hockey “hot button” situation? Who else is involved (e.g., an opponent high sticks you, coach yelling at you)? Is there a chain of events that typically unfolds every time your hockey hot button is triggered?**

---

---

4. What emotions do you feel in this “hot button” situation, and how strong (intense) are the emotions (1 = weak, 10 = very strong)? What thoughts are you having at this time?

| Emotion      | Intensity | Thoughts                    |
|--------------|-----------|-----------------------------|
| <i>Anger</i> | <i>10</i> | <i>“I’ll get you back!”</i> |
|              |           |                             |
|              |           |                             |
|              |           |                             |
|              |           |                             |
|              |           |                             |

5. How have you behaved in the past during this “hot button” situation?

---



---



---



---

6. What steps have you taken in the past to try to change your emotional response in this *hockey hot button* situation?

---



---



---



---

### **Hot Button Tips**

1. Have someone else help you identify your hot buttons.
2. Avoid being defensive about your hot buttons. Hot buttons create problems because we hang on to them.
3. Seek out critical feedback to improve your emotional toughness.

Adapted from Murphy, S. (1996). The achievement zone: 8 skills for winning all the time from the playing field to the boardroom. (The Sixth Skill). G. P. Putnam’s Sons: New York.



## Emotional Toughness Exercise: Refuting and Replacing Aggressive Thoughts

### Stinking Thinking: The Origin of Aggression

- a. When someone trips our hot button we sometimes think negative, unproductive thoughts before we become emotionally charged.
- b. This stinking thinking involves thoughts that place blame for what has happened to us.
- c. Frequently, we think what the other person did is:
  - i. Unfair
  - ii. Unwarranted
  - iii. On purpose
  - iv. Disrespectful
  - v. Dangerous
- d. For example, here are several thoughts players have when their hot buttons are tripped:
  - i. "That was an unfair hit; I'll get that guy back!"
  - ii. "He didn't need to push me; I won't put up with that."
  - iii. "#22 intentionally tried to hurt me with a slash to the back of the knee; he won't get away with that."
  - iv. "You can't do that to me; I'll show you who is tougher."
  - v. "He almost hurt me; I have to defend myself."
- e. Does it help to think this way? Will you achieve your goal this way?

---



---

- f. My stinking thinking is:

| The hot button event is:             | Stinking Thought            |
|--------------------------------------|-----------------------------|
| <i>Check in the back into boards</i> | <i>"I'll get you back!"</i> |
|                                      |                             |
|                                      |                             |
|                                      |                             |
|                                      |                             |

- g. What problems do you see with your stinking thinking?

---

Instead of stinking thinking, let's replace it with something positive and productive (refute the stinking thought).

| Stinking Thinking  | Refuting It                                |
|--|--|
| <i>"That was intentional, unfair, etc. - I'll get you back!"</i> | <i>#22 probably didn't mean to hurt me</i> |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

#### Replacement Statements

|   |
|---|
| <i>I will battle through it, find the puck!</i> |
|   |
|   |
|   |
|   |
|   |

- h. Now pick a statement that you think will help you respond positively to your hot buttons situation:

**For Now, the 1<sup>st</sup> R of my 3 R's is:**

---



***"Be like Steve Yzerman,  
emotionally tough even when he  
is injured."***

## At Home Activity #3: Logging Your Hot Button Situations



**Directions:** Please fill in your hot button situation below. Then, anytime this situation occurs this week please log what happened and your response to the hot button. Finally, you should determine if you used the 1<sup>st</sup> R – respond.

**My Hot Button is:** \_\_\_\_\_

| Describe what happened:  | Describe your Thoughts and Feelings:       | Describe your Response and Thought:                   | Did you use the 1st R – Respond? |
|--------------------------|--|---|----------------------------------|
| <i>Hit by high stick</i> | <i>Frustrated, but thought “let it go”</i> | <i>Skated to the Net Hard; Thought “Play hockey!”</i> | <i>Yes</i>                       |
|                          |  |   |                                  |
|                          |  |   |                                  |
|                          |  |   |                                  |
|                          |  |   |                                  |
|                          |  |   |                                  |
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|                          |  |   |                                  |
|                          |  |   |                                  |

## SHIFT #4: Developing Emotional Toughness

### Steps 3 & 4: The 3 R's

#### I. Review: What are the 3 R's?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

#### II. The Second "R": Relax

- A. Relax – negative emotions occur, your next step is to calm down immediately
- Have a method for releasing the emotion and getting back into play.
  - We will use the skill of centering as the 2<sup>nd</sup> "R".



B. **2<sup>nd</sup> Emotional Toughness Skill: Centering (On-Ice Emotional Toughness)**

Centering is:

1. An important tool that "clutch" players have mastered (like Ron Francis, Mark Messier, Steve Yzerman, Martin Brodeur) to play their best in stressful situations.
2. A way to help you reduce tension and eliminate negative thoughts.
3. A method for conserving your energy.
4. A balanced hockey stance with your head up, back straight, and knees bent. You can achieve this by jumping in the air and landing on 2 feet.
5. Basically controlled breathing, but now it's in your hockey stance!



Martin Brodeur plays great under pressure, including in Game 7 of the Stanley Cup Finals twice and the Olympic Gold Medal Game in 2002. He stays relaxed and emotionally under control.

## ***TOOLBOX: CENTERING***

- Get into your hockey stance.
- Inhale deeply and slowly through the nose for 3 seconds.
- Take a deep belly breath instead of a shallow chest breath.
- Focus on your strength – your center of gravity.
- Exhale slowly from the mouth for 3 seconds.
- As you exhale say a word that will help you relax like “cool”, “chill”, or “calm.”

- C. In addition to centering during the 2<sup>nd</sup> R:
1. *self-talk* or *mental cue* – “calm”, “relax”, “cool”
  2. *visualization/imagery* of responding in a positive manner
- D. When Can I Use Centering On-Ice?
1. Between Shifts to Recover
  2. Approaching a Faceoff
  3. When Someone Takes a Dirty and Aggressive Shot at You!

### **III. The Third “R”: Refocus**



- A. Hockey is a game of recovery. Players that get caught up on the boards or behind the play with “chippy” and dirty and aggressive play do not recover as quickly. Then their opponent has the advantage.
- B. The goal is to get immediately back into play after you have responded positively and relaxed (by centering).
- C. Staying angry or frustrated will hurt your performance (ruins the fun of playing the game and playing it well) if it is not rewired into something positive (backchecking for instance).
- D. Redirect aggressive energy to positive behaviors (“backcheck”, “hustle more”, “push”)
- E. Also, you can use a cue word to get back in the present (e.g., “move on”, “let’s go”)

### STEP 3: Rewiring Your Hockey Hot Buttons



#### Directions:

- Please complete this worksheet by taking the hockey hot button you listed on the previous worksheet and using it to answer the questions below.
- Rewiring your hot buttons means replacing old negative reactions with new positive and productive reactions.
- For example, one player's hot button may be that when he is checked he gets angry and immediately retaliates because he thinks "that was so unfair . . .". To rewire, the player decides to take a deep breath and skate hard when he is checked. Also, he decides to remind himself that checking is part of the game and to be tough and clean.
- Remember that Emotional Toughness requires you to choose a new set of responses to your hot buttons.
- On the next page, think of ways that you can practice your 3 R's routine.

#### It's Time to Rewire Your Hockey Hot Button

*Think about how you want to feel and act in the situation that triggers your hockey hot button. Describe in detail your new set of responses to your hockey hot button in the space below. These questions may help you get started:*

**1. What feelings will help you deal with this *hot button* situation?**

---

---

**2. What thought(s) will help you deal with this hot button situation?**

---

---

**3. How could you act more effectively in the event this *hot button* occurs?**

---

---

4. Please list your on-ice 3 R's *emotional toughness routine*:

**RESPOND:** \_\_\_\_\_

**RELAX:** \_\_\_\_\_ **CENTERING** \_\_\_\_\_

**REFOCUS:** \_\_\_\_\_



5. The next step is to practice your new response to your hot button. Take a few moments to think about the ways you could practice your Emotional Toughness (e.g., imagery of new responses in hot button situation). List them in the space provided below.

---

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Adapted from Murphy, S. (1996). The achievement zone: 8 skills for winning all the time from the playing field to the boardroom. (The Sixth Skill). G. P. Putnam's Sons: New York.

#### IV. Transferring 3 R's to Games – “Stick It”

A. How am I going to put my 3 R's on-ice?

---

---

B. Stick the 3<sup>rd</sup> “R”, REFOCUS, on your stick.

C. Look at your refocus word while on the bench or during breaks to remind you that you are emotionally tough!





## At-Home Activity #5: Emotional Toughness Skills Practice: 3 R's Visualization Log

### Directions:

- Begin your practice by doing controlled breathing (see page 283 for Controlled Breathing toolbox).
- Once you are relaxed and focused on your breathing, imagine your hot button situation discussed during the last session.
- Now, see and feel yourself responding with emotional toughness and using the 3 R's. See the 3 R's in action.
- After visualizing your 3 R's, fill in the date and answer the 3 questions.
- Practice visualizing your 3 R's 3-5 minutes per day.
- Additional 3 R's visualization logs are on pages 316-317.

### 3 R's Visualization Log


| <b>Date</b>   | <b>Did you see &amp; feel your hot button situation?</b> | <b>Were you able to see &amp; feel your 3 R's?</b> | <b>How did you feel afterwards?</b> |
|---------------|--|--|-------------------------------------|
| <i>1/1/05</i> | <i>Yes</i>   | <i>Yes</i>   | <i>Confident</i>                    |
|               |  |  |                                     |
|               |  |  |                                     |
|               |  |  |                                     |
|               |  |  |                                     |
|               |  |  |                                     |
|               |  |  |                                     |
|               |  |  |                                     |

## My Working 3 R's Routine



1. Respond: 

---

3. Relax: 

---

3. Refocus: 

---

## SHIFT #5: Understanding Energy, Stress & Emotion

### Emotional Toughness Skills Practice Review

What are some possible roadblocks to using your 3 R's routine?



How do you overcome them?

| Roadblock to using 3 R's: | How I will get around or overcome my roadblock: |
|---------------------------|---|
|                           |   |
|                           |   |
|                           |   |
|                           |   |
|                           |   |

### What are Energy and Stress and How Do They Affect Me?

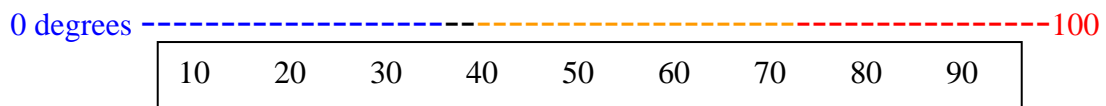
#### I. What is Energy?

- A. Energy is closely related to the activation of your muscles.
- B. It is highly influenced by your mind.
- C. If you think you're energized, you probably will be!
- D. The amount of energy you have can be viewed as a temperature gauge:
  - i. At 0 degrees you are flat, and basically are asleep – no energy!
  - ii. At 100 degrees you have so much energy you are “bouncing off the walls”.
  - iii. Some temperature in between 0 and 100 degrees is probably where you need to play tough and clean hockey.

#### II. How Does Energy Affect Me?

- A. As your energy increases, so does your emotion!
- B. Increased energy (to a certain level) improves performance.
- C. Higher levels of energy are good, but you don't want too much – you can get out of control.

My optimal energy and emotional level is:



### III. What is Stress?

- A. Your belief that the demands of the situation are more than you can handle.
- B. What hockey situations are stressful to me?

---

---

---

### IV. How Does Stress Affect Me?

- A. When a player becomes stressed several things can happen:
  - 1. Tension in the muscles increases. \_\_\_\_
  - 2. Begin to expect the worst, or “play not to lose.” \_\_\_\_
  - 3. Focus on things you can’t control like the ice, instead of thinking about what you’re doing right now! \_\_\_\_
  - 4. **You’re more likely to lose emotional control and play dirty.** \_\_\_\_
- B. Please check off those things above that have happened to you in a stressful situation.
- C. When a player is stressed-out their hockey performance decreases!

### V. What Can I do to Deal with Stress?

- A. Rethink what I consider stressful.
- B. Control my breathing
- C. Center
- D. USE MY 3 R’S!!!



### VI. Why use Energy and Stress Strategies?

- A. Focuses you on what you are doing right now or helps you “Play in the moment”.
- B. Allows you to slow down and “check-in” with yourself. The “check-in” then lets you determine whether you’re nervous, loose, etc.

- C. Allows you to gain control – gets your mind thinking at a comfortable speed. Thoughts aren't rushing in or out.
- D. Helps you deal with negatives and move on to positives.
- E. Energizes your effort. By using faster breathing you can speed up your heart and get your body going.
- F. Allows you to develop a rhythm when playing the game.

(Adapted from Ravizza & Hanson, 1995)

## VII. Emotional Management Outside of Hockey

- A. Managing your life outside of hockey (e.g., relationships, school work & concerns, etc.) will help you be emotionally tough inside the rink.
- B. “What parts of your life outside of hockey do you bring into the rink with you?”

---



---



---

- C. The key is to manage your relationships and time outside of hockey. Otherwise, these emotions can get the best of you in games and lead to poor performance and dirty and aggressive play.
- D. You can also “park” or “bag” outside distractions prior to stepping on the ice. This way you keep the emotional distractions going on in your life from affecting you on the ice.
- E. While playing hockey you cannot deal with any outside concerns. So, you might as well “park” or “bag” them and pick them up later. They will be waiting.

## STEP 4: GAME PLAN: Training Your Emotional Toughness

1. Practice off-ice
2. Practice on-ice
3. Log – we need information (amount of practice and also the quality of practice) to know if it is working.
4. Evaluate – are changes needed?
5. Make changes when needed – be willing to adjust!

## At-Home Activity #6: Post-Practice Reflection: What I Learned from My 3 R's Practice Today

**Directions:** Write down what you learned from practicing your 3 R's including what went right, wrong, and how to improve. \*Write down any notes when you use the 3 R's in practice or games.

**Describe what you learned:**

| <u>Date</u> | Things that went right | Things that went wrong | How I can improve my emotional toughness on-ice (3 R's) |
|-------------|------------------------|------------------------|---|
|             |                        |                        |   |
|             |                        |                        |   |
|             |                        |                        |   |
|             |                        |                        |   |
|             |                        |                        |   |
|             |                        |                        |   |

## SHIFT #6: Rethinking what is Stressful

### I. Game Video Review

A. While reviewing my game video I learned/saw:

---

---

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---

### II. Rethinking What You Think is Stressful

“I love it! I like the fact that whether there is going to be ten shots or forty shots, I’m going to make a difference. Just one of those shots could mean a win or a loss for us, and that for me is a great pressure, knowing that I can make an impact at any moment of the game.” (*Rush, May 2001*)

Martin Brodeur, New Jersey Devils, when asked about the pressure of being a goaltender

- A. As the Brodeur quote emphasizes, perceiving pressure or stress as a challenge can improve your performance.
- B. The key is that you control your reaction to pressure and stress.

### III. Imagery of Your 3 R’s Routine

A. What is Imagery?

1. Imagery is using all your senses to create or recreate experiences in your mind. “Daydreaming, but with a purpose”
2. See it and feel it!



**B. Why Imagery?**

1. Will help you practice your 3 R's routine in your head.
2. See it, feel it, believe it!

"I really believe if you visualize yourself doing something, you can make that **image** come true."

"The Great One" Wayne Gretzky

**IV. What is Good Imagery?**

- A. Very clear replay or pre-play –can see it and feel it!
- B. You control the remote:
  1. It moves at the speed you want.
  2. It stops when you want it to.
  3. It runs when you want it to.

**V. How do I use Imagery?**

- A. Find a quiet, dark place to relax (like when you go to bed for the night).
- B. Close your eyes and focus on your breathing.
- C. Focus totally on breathing; allow distractions to bounce off you.
- D. Think about situations that lead to dirty and aggressive play (i.e., hot buttons). In this situation, what are the thoughts and feelings you have? Feel these very strongly as you relive the situation.
- E. Begin to imagine your hot button situation and how you will respond using the 3 R's (while reliving these powerful feelings).
- F. If you see yourself attempting your 3 R's unsuccessfully, stop, concentrate on your breathing and try again.
- G. Remember, see it and feel it!



# At Home Activity #7: Imagery Practice of 3 R's Log

## Directions:

- Do the imagery of your **hot button situation** and then see yourself doing the **3 R's**. Also, see yourself scoring a goal or making a nice defensive play as a result of refocusing with the **3 R's**.
- After the imagery, circle yes or no for the first 3 columns.
- Finally, rate how confident you are in using the **3 R's**.
- Imagery should be practiced twice per day – once at night, and once in the morning for 5 minutes.

| Trial | Date | Were you able to<br>clearly see yourself<br>using the 3 R's? |    | Were you able to<br>control the imagery so<br>you could see the<br>whole thing? |    | Were you able to see<br>and feel yourself being<br>successful using the 3<br>R's? |    | Rate how confident<br>you feel in using the<br>3 R's |                    |                |
|-------|------|--|----|---|----|---|----|--|--------------------|----------------|
|       |      |  |    |   |    |   |    | not confident  | a little confident | very confident |
| 1     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 2     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 3     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 4     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 5     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 6     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 7     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 8     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 9     |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 10    |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |
| 11    |      | YES  | NO | YES   | NO | YES   | NO | 1  | 2                  | 3              |

## SHIFT #7: 3 R's Practice/ Being My Own Teacher

### **Post-Practice Reflection: What I Learned from My 3 R's Practice Today**

**Directions:** Write down what you learned from practicing your 3 R's including what went right, wrong, and how to improve. Additional log sheets are located on pages 318-319.

**Describe what you learned:**

| <b>Date</b> | <b>Things that went right</b> | <b>Things that went wrong</b> | <b>How I can improve my emotional toughness on-ice (3 R's)</b> |
|-------------|-------------------------------|-------------------------------|--|
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |

## **Game Video Notes**

## **I. Being My Own Teacher**

- A. To master a skill or ability means to have the ability to use it and execute it when you need it with success.
- B. Great hockey players have mastered the ability to control their emotions and remain emotionally tough by working on these skills throughout the season.
- C. Great players also continually monitor their own progress, evaluate it, and find ways to improve.
- D. The player takes over from the teacher and monitors his or her own success.
- E. This is the goal for our meetings. In the end, you will become your own teacher. You will evaluate, monitor, and make changes to be successful in being emotionally tough.
- F. To become your own teacher is a big step towards reaching your potential as a hockey player.
- G. Players who have learned to be their own teachers still ask for feedback and advice from other, and are in a better position to use that feedback and advice.

## **II. How Do I Become My Own Teacher?**

- A. You have already started to become your own teacher.
- B. With the knowledge you have, all that is left is to make the commitment to monitor and regulate your emotional toughness.
- C. When you commit to playing tough and clean hockey and constantly work on your emotional toughness skills, you have become your own teacher.
- D. Being your own teacher also requires that you reflect on each practice, game, scrimmage, and to determine how you did. Use the logs in this handout to continue monitor your progress in playing tough and clean hockey and remaining emotionally tough.
- E. Set goals to practice your emotional toughness skills (such as centering and the 3 R's) 3-4 times per week.
- F. Always learn from your good and bad experiences. Make a plan to improve, and then move on.

**A. What am I Going to Do to “*Play Tough and Clean Hockey*” over the next 2 weeks?”**



**My Goals Are:**

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_

### **III. Commitment**

I will be my own teacher of playing tough and clean hockey by being emotionally tough. This means practicing emotional toughness skills, using them when the situation arises, and taking time after the game or practice to learn from good and bad experiences, set goals, and then move on.

Player signature: \_\_\_\_\_

**“The difference between a successful man and others is not a lack of strength, not a lack of knowledge, but rather a lack of will.”**

Vince Lombardi, Coach of the Green Bay Packers

## SHIFT #8: 3 R's Practice/ Emotionally Tough in All Walks of Life

### Post-Practice Reflection: What I Learned from My 3 R's Practice Today

**Directions:** Write down what you learned from practicing your 3 R's including what went right, wrong, and how to improve. Additional log sheets are located on pages 318-319.

#### Describe what you learned:

| Date | Things that went right | Things that went wrong | How I can improve my emotional toughness on-ice (3 R's) |
|------|------------------------|------------------------|---|
|      |                        |                        |   |
|      |                        |                        |   |
|      |                        |                        |   |
|      |                        |                        |   |

## **Game Video Notes**

## **I. Emotionally Tough in All Walks of Life**

- A. Emotional toughness can apply to other areas of your life beyond hockey.
- B. Think for a moment of times when being emotionally tough in life would help you. List these below.

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- C. How would you remain emotionally tough in these situations?

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## **II. My Goals for Using My Skills in Life**

- A. In life situations when it is important to be emotionally tough, set goals to do so.
- B. For example, “When someone calls me names at school, I will use my 3 R’s to keep my composure.”
- C. What are your goals for using your emotional toughness skills in life?

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## SHIFT#9: The Final Buzzer & Where to Next?

### Program Wrap-up



#### I. You Have Learned Emotional Toughness Skills:

- The **3 R's** routine of respond, relax, and refocus
- Controlled Breathing
- Centering
- Imagery
- Playing tough and clean hockey perspective

#### II. Continuing to Use Your Emotional Toughness Skills

- A. Practice Your Emotional Toughness Skills
- B. Use the **3 R's** in Hockey and In Your Life

##### 1. Using the **3 R's** Outside of Hockey: When am I using it?

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- C. Respect Your Opponent, Referees, Teammates, Coaches, and Parents
- D. Always, Always ***“Play Tough and Clean Hockey”***



### **III. *PLAYING TOUGH AND CLEAN HOCKEY:***

**NOW IT'S YOUR RESPONSIBILITY TO CONTINUE TO  
PRACTICE EMOTIONAL TOUGHNESS SKILLS!**

#### **A. What am I Going to Do to “*Play Tough and Clean Hockey?*”**

**My Goals Are:**



1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_

**Congratulations! You Have Completed the “Playing Tough and Clean”  
Hockey Program!**

**Thank you very much for your participation!**



## LOGS

## Emotional Toughness Skills Practice: Centering Log

**Directions:**

- Before your centering practice rate how tense you are.
- Center as we did in the session.
- After centering, rate how tense you are.
- In the third column, list if your centering was good, bad, or was it just plain ugly (still tense).
- Finally, put why you rated your centering practice as good, bad, or ugly.

## Centering Log

**Before Centering:**  
**How tense are you?**

**After Centering:**  
**How tense are you?**

## How was your centering?

## Why was it good, bad, or ugly?

not at all  
some  
very tense

not at all  
some  
very tense

**(Good, bad, ugly)      Why?**

[illegible]

## Emotional Toughness Skills Practice: 3 R's Visualization Log

### Directions:

- Begin your practice by doing controlled breathing (see page 283 for Controlled Breathing toolbox).
- Once you are relaxed and focused on your breathing imagine your hot button situation discussed during the last session.
- Now see yourself responding with emotional toughness and using 3 R's. See the 3 R's in action.
- After visualizing your 3 R's fill in the date, and answer the 3 questions.
- Practice visualizing your 3 R's 3-5 minutes per day.

### 3 R's Visualization Log

| Date   | Did you see & feel your hot button situation? | Were you able to see & feel your 3 R's? | How did you feel afterwards? |
|--------|---|---|------------------------------|
| 1/1/05 | Yes   | Yes                                     | Confident                    |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |

## Emotional Toughness Skills Practice: 3 R's Visualization Log

### Directions:

- Begin your practice by doing controlled breathing (see page 283 for Controlled Breathing toolbox).
- Once you are relaxed and focused on your breathing imagine your hot button situation discussed during the last session.
- Now see yourself responding with emotional toughness and using 3 R's. See the 3 R's in action.
- After visualizing your 3 R's fill in the date, and answer the 3 questions.
- Practice visualizing your 3 R's 3-5 minutes per day.

### 3 R's Visualization Log

| Date   | Did you see & feel your hot button situation? | Were you able to see & feel your 3 R's? | How did you feel afterwards? |
|--------|---|---|------------------------------|
| 1/1/05 | Yes   | Yes                                     | Confident                    |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |
|        |   |   |                              |

## **Post-Practice Reflection: What I Learned from My 3 R's Practice Today**

**Directions:** Write down what you learned from practicing your 3 R's including what went right, wrong, and how to improve.

**Describe what you learned:**

| <b>Date</b> | <b>Things that went right</b> | <b>Things that went wrong</b> | <b>How I can improve my emotional toughness on-ice (3 R's)</b> |
|-------------|-------------------------------|-------------------------------|--|
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |

## **Post-Practice Reflection: What I Learned from My 3 R's Practice Today**

**Directions:** Write down what you learned from practicing your 3 R's including what went right, wrong, and how to improve.

**Describe what you learned:**

| <b>Date</b> | <b>Things that went right</b> | <b>Things that went wrong</b> | <b>How I can improve my emotional toughness on-ice (3 R's)</b> |
|-------------|-------------------------------|-------------------------------|--|
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |
|             |                               |                               |  |

## APPENDIX C1

### Post-Game Self-Report Emotion and Feeling State Log (Baseline)

## USA Hockey Player Post-Game Self-Report Log

1

\*Please answer the following questions after your game. Please take a moment to think about each question, and be as honest as possible. This log will not help you become a better player unless you provide honest answers. When finished please fold, place in the envelope provided by your coach, and seal it.

Player # \_\_\_\_\_  
Team \_\_\_\_\_

Date \_\_\_\_\_  
Game #\_\_1\_\_

1. Rate your individual performance in today's game (compared to your normal performance): (Please circle the number that best reflects your answer) [Performance]

|          |   |         |   |       |
|----------|---|---------|---|-------|
| 1        | 2 | 3       | 4 | 5     |
| terrible |   | average |   | great |

2. Rate how you felt during the game today on each of the terms listed below using the scale: (Please write your response on the blank beside the feeling) [Emotion & Feeling States]

|                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| very slightly<br>or not at all | a little | moderately | quite a bit | extremely |

\_\_\_\_ Angry

\_\_\_\_ Motivated

\_\_\_\_ Upset

\_\_\_\_ Embarrassed

\_\_\_\_ Frustrated

3. Rate how you felt during the game today on the following scale: (Please write your response on the blank beside each statement.) [Aggressive Feelings/Emotional control]

|                    |   |                   |   |                 |
|--------------------|---|-------------------|---|-----------------|
| 1                  | 2 | 3                 | 4 | 5               |
| not at all like me |   | like me sometimes |   | exactly like me |

\_\_\_\_ Once in a while I could not control the urge to hurt another person.

\_\_\_\_ When my opponent played dirty and aggressive, I remained in control of my emotions.

\_\_\_\_ I controlled my temper.

\_\_\_\_ I felt like attacking opponents.

\_\_\_\_ When frustrated, I wanted to harm another person.



4. Rate how ***dirty and/or aggressive*** you were today as compared to your normal levels of aggression): (Please circle the number that best reflects your answer) [Dirty & Aggressive]

|                      |   |        |   |                      |
|----------------------|---|--------|---|----------------------|
| 1                    | 2 | 3      | 4 | 5                    |
| much less aggressive |   | normal |   | much more aggressive |

5. When you were ***dirty and aggressive*** what emotions and feelings did you have? [Dirty & Aggressive]

---

---

6. Rate how ***tough and clean*** you were today as compared to your normal): (Please circle the number that best reflects your answer) [Tough & Clean]

|                 |   |        |   |                       |
|-----------------|---|--------|---|-----------------------|
| 1               | 2 | 3      | 4 | 5                     |
| not tough/clean |   | normal |   | much more tough/clean |

7. When you were ***tough and clean*** what emotions and feelings did you have? [Tough & Clean]

---

---

8. Rate your ability to be ***emotionally tough*** during adverse situations (anger, frustration, checked from behind).

(Please circle the number that best reflects your ability to respond with a positive behavior such as backchecking hard and avoid dirty and aggressive behavior.) [Emotional Toughness]

|        |   |           |   |        |
|--------|---|-----------|---|--------|
| 1      | 2 | 3         | 4 | 5      |
| unable |   | sometimes |   | always |

## APPENDIX C2

### Post-Game Self-Report Emotion and Feeling State Log (Treatment)

## USA Hockey Player Post-Game Self-Report Log

2

\*Please answer the following questions after your game. Please take a moment to think about each question, and be as honest as possible. This log will not help you become a better player unless you provide honest answers. When finished please fold, place in the envelope provided by your coach, and seal it.

Player # \_\_\_\_\_

Date \_\_\_\_\_

Team \_\_\_\_\_

Game # \_\_\_\_\_

1. Rate your individual performance in today's game (compared to your normal performance): (Please circle the number that best reflects your answer)

1  
terrible

2

3  
average

4

5  
great

2. Rate how you felt during the game today on each of the terms listed below using the scale: (Please write your response on the blank beside the feeling)

1  
very slightly  
or not at all

2  
a little

3  
moderately

4  
quite a bit

5  
extremely

\_\_\_\_ Angry

\_\_\_\_ Motivated

\_\_\_\_ Upset

\_\_\_\_ Embarrassed

\_\_\_\_ Frustrated

3. Rate how you felt during the game today on the following scale: (Please write your response on the blank beside each statement.)

1  
not at all like me

2

3  
like me sometimes

4

5  
exactly like me

\_\_\_\_ Once in a while I could not control the urge to hurt another person.

\_\_\_\_ When my opponent played dirty and aggressive, I remained in control of my emotions.

\_\_\_\_ I controlled my temper.

\_\_\_\_ I felt like attacking opponents.

\_\_\_\_ When frustrated, I wanted to harm another person.

4. Rate how ***dirty and/or aggressive*** you were today as compared to your normal levels of aggression): (Please circle the number that best reflects your answer) [Dirty & Aggressive]

|                      |   |        |   |                      |
|----------------------|---|--------|---|----------------------|
| 1                    | 2 | 3      | 4 | 5                    |
| much less aggressive |   | normal |   | much more aggressive |

5. When you were ***dirty and aggressive*** what emotions and feelings did you have? [Dirty & Aggressive]

---

---

6. Rate how ***tough and clean*** you were today as compared to your normal): (Please circle the number that best reflects your answer) [Tough & Clean]

|                 |   |        |   |                       |
|-----------------|---|--------|---|-----------------------|
| 1               | 2 | 3      | 4 | 5                     |
| not tough/clean |   | normal |   | much more tough/clean |

7. When you were ***tough and clean*** what emotions and feelings did you have? [Tough & Clean]

---

---

8. Rate your ability to be ***emotionally tough*** during adverse situations (anger, frustration, checked from behind).

(Please circle the number that best reflects your ability to respond with a positive behavior such as backchecking hard and avoid dirty and aggressive behavior.) [Emotional Toughness]

|        |   |           |   |        |
|--------|---|-----------|---|--------|
| 1      | 2 | 3         | 4 | 5      |
| unable |   | sometimes |   | always |

9. In situations when you were frustrated, angry or felt like being aggressive/illegally hitting another player, how successful were you in using the following strategies learned during the program?

|                           |   |                               |   |                         |
|---------------------------|---|-------------------------------|---|-------------------------|
| 1                         | 2 | 3                             | 4 | 5                       |
| extremely<br>unsuccessful |   | successful 50%<br>of the time |   | extremely<br>successful |

\_\_\_\_ 3 R's Routine  
\_\_\_\_ Controlled Breathing  
\_\_\_\_ Centering

If you did not use these techniques or were unsuccessful please list some reasons for this.

# APPENDIX D

## Video Coding Sheet

### AGGRESSION/CRITICAL INCIDENT FORM

Game:

Date:

#### AGGRESSION

#### CRITICAL INCIDENT-INSTIGATING EVENT

*Event Description- Who did what to whom*

| Player | Act | Period | Time  |
|--------|-----|--------|-------|
| 39     | SL  | 1      | 10:10 |
|        |     |        |       |
|        |     |        |       |
|        |     |        |       |
|        |     |        |       |
|        |     |        |       |
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| Period | Time  | Provoker | Act/Behavior | Provokee | Retaliate (Y/N) | Retaliator # |
|--------|-------|----------|--------------|----------|-----------------|--------------|
| 1      | 10:05 | 15       | Cross check  | 39       | Y               | 39           |
|        |       |          |              |          |                 |              |
|        |       |          |              |          |                 |              |
|        |       |          |              |          |                 |              |
|        |       |          |              |          |                 |              |
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|        |       |          |              |          |                 |              |
|        |       |          |              |          |                 |              |
|        |       |          |              |          |                 |              |
|        |       |          |              |          |                 |              |

Butt = Butt-ending      RGH = Roughing      EL = Elbowing  
 Clip = Clipping      SP = Spitting      KN = Kneeing  
 CC = Cross-checking      B = Boarding      KI = Kicking  
 HS = High-sticking      G = Grabbing      FG = Fighting  
 PU = Pushing      SL = Slashing      St. Sw. = Stick Swinging  
 CH = Charging      CB = Check from behind      HB = Head Butting  
 Verb-agg = Verbal Aggression (toward self, teammate, opponent)

## APPENDIX E

### Program Test

#### ‘Playing Tough and Clean Hockey Program’ Test

*Please answer each question by circling the correct answer or filling in the blank space.*

Name \_\_\_\_\_

**1. It is not appropriate to be aggressive because it hurts others.    True            False**

**2. The difference between tough, clean hockey and dirty and aggressive hockey is:**

- A. Tough and clean hockey is against the rules.
- B. Tough and clean hockey means you are trying to hurt someone.
- C. Dirty and aggressive hockey means you are trying to hurt someone.
- D. Mean the same thing.

**3. The best type of hockey player plays:**

- A. “Mean and dirty hockey”
- B. Emotionally out of control hockey
- C. “Tough, and clean hockey”
- D. “Stick up, head down hockey”

**4. As a hockey player you:**

- A. Should never show emotion on the ice.
- B. Have control over the way your respond to emotions.
- C. Have no control over the way your respond to emotions.
- D. Use your emotions to intimidate your opponent.

**5. Emotional Toughness is:**

- A. Lacking control over the way your respond to emotions.
- B. Losing control in hot button situations.
- C. Responding positively to negative situations and emotions such as when someone “cheap shots” you and your angry.
- D. Never showing how you really feel.

**6. The 3 R's stand for (in the correct order):**

- A. Recenter, Relax, and Refocus
- B. Respond, Relax, Refocus
- C. Refocus, Relax, React
- D. Reading, Writing, and Arithmetic

**7. My 3 R's are:**

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

**8. Centering on the ice means:**

- A. Take a deep breath filling up the stomach, and letting it out as you refocus on hockey.
- B. Lying down on the ice and stretching.
- C. Breathing out as you retaliate and slash your opponent.
- D. Staying in the middle of the ice.

**9. Centering is:**

- A. Getting out of hockey position when you are tired.
- B. Staying in a good, balanced hockey position while taking deep breaths and relaxing.
- C. Taking a break from playing hockey.
- D. Throwing the puck out in the slot.

**10. How can I use Imagery:**

- A. To go to sleep.
- B. To think about being unsuccessful using my 3 R's.
- C. To see and feel myself being successful using the 3 R's.
- D. To see myself being successful using the 3 R's.

**11. What is the best way to practice your stress strategies?**

- A. In a quiet place without distractions.
- B. In a room with the television on.
- C. Practice only when you really need it.
- D. You do not need to practice these strategies, just try them in a game.

**12. How often should I practice my emotional toughness skills (breathing, centering, 3 R's, and imagery of 3 R's)?**

- A. Only when I desperately need it (losing control).
- B. Once a week.
- C. Twice per day.
- D. Only on game days.

**13. My refocusing cue (the 3<sup>rd</sup> "R") helps me:**

- A. Get back at my opponent.
- B. React to a dirty hit by getting back into the play.
- C. Think about things other than hockey.
- D. Tune out my coach so I can concentrate on playing.

**14. My first response to a cheap shot should be:**

- A. To retaliate and get back at them.
- B. Lay down on the ice and try to get a penalty.
- C. To ignore the cheap shot and get back into play.
- D. Take the player's number and get them later when I can get away with it.

**15. An emotion is:**

- A. A wishy, washy feeling that has no bearing on hockey.
- B. A powerful, brief feeling that influences hockey performance.
- C. Something to "bottle up" because you don't want others to know how you're feeling.
- D. A hot button.

**16. A hot button is:**

- A. A hockey "pet peeve" that almost always makes you negative (angry, frustrated) and often leads to dirty and aggressive hockey.
- B. What you push to energize your play.
- C. Something in hockey that makes you positive (happy, excited) and often leads to better performance.
- D. A button that has been in the dryer too long.

**17. Which of the following is NOT dirty and aggressive hockey?**

- A. Slashing a player in front of the net
- B. Checking from behind
- C. Putting your hands into your opponent's face as you check them
- D. Tripping a player by accident

**18. An emotion and the value it has in hockey are listed below. Which of these are false?**

- A. Anger provides you a boost in energy.
- B. Frustration helps you rethink your strategy and develop a new one.
- C. Embarrassment calms you down when you have too much energy.

**19. When faced with a hot button situation next season what will you do?**

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**20. How will you continue to be emotionally tough and play tough and clean hockey?**

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## APPENDIX F

### Program Evaluation

# Program Evaluation

1. How effective was this program in helping you (rate each item on the scale below):

| 1                        | 2                    | 3                  | 4              |
|--------------------------|----------------------|--------------------|----------------|
| Very ineffective         | Somewhat ineffective | Somewhat effective | Very effective |
| <input type="checkbox"/> |                      |                    |                |
| <input type="checkbox"/> |                      |                    |                |
| <input type="checkbox"/> |                      |                    |                |
| <input type="checkbox"/> |                      |                    |                |
| <input type="checkbox"/> |                      |                    |                |
| <input type="checkbox"/> |                      |                    |                |

2. Which of the following skills did you learn (check all that apply)?

|                          |                      |                          |               |
|--------------------------|----------------------|--------------------------|---------------|
| <input type="checkbox"/> | The 3 R's Routine    | <input type="checkbox"/> | Imagery       |
| <input type="checkbox"/> | Controlled Breathing | <input type="checkbox"/> | Visualization |
| <input type="checkbox"/> | Centering            |                          |               |

3. How difficult was it to learn the following skills (rate each skill on the scale below)?

| 1                        | 2                  | 3             | 4         |
|--------------------------|--------------------|---------------|-----------|
| Very difficult           | Somewhat difficult | Somewhat easy | Very easy |
| <input type="checkbox"/> |                    |               |           |
| <input type="checkbox"/> |                    |               |           |
| <input type="checkbox"/> |                    |               |           |

4. How useful were the following skills in helping you stay emotionally tough on the ice (rate each skill on the scale below)?

| 1                        | 2             | 3               | 4           |
|--------------------------|---------------|-----------------|-------------|
| Not useful               | Rarely useful | Somewhat useful | Very useful |
| <input type="checkbox"/> |               |                 |             |
| <input type="checkbox"/> |               |                 |             |
| <input type="checkbox"/> |               |                 |             |

5. How difficult was it to practice the following skills (rate each skill on the scale below)?

|                          | 1              | 2                  | 3             | 4         |
|--------------------------|----------------|--------------------|---------------|-----------|
|                          | Very difficult | Somewhat difficult | Somewhat easy | Very easy |
| ___ The 3 R's Routine    |                |                    |               |           |
| ___ Controlled Breathing |                |                    |               |           |
| ___ Centering            |                |                    |               |           |
| ___ Imagery              |                |                    |               |           |
| ___ Visualization        |                |                    |               |           |

6. Were you able to use the skills you learned (check if you were able to):

|                      | In Practices? | In Games? | In Your Life? |
|----------------------|---------------|-----------|---------------|
| 3 R's Routine        |               |           |               |
| Controlled Breathing |               |           |               |
| Centering            |               |           |               |
| Imagery              |               |           |               |
| Visualization        |               |           |               |

If able to use these skills at other times in your life please list when:

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7. How much did you enjoy coming to the sessions (circle your answer)?

| 1          | 2 | 3    | 4 | 5         |
|------------|---|------|---|-----------|
| Not at all |   | Okay |   | Very much |

8. Was the program easy to understand (circle one)? Yes No

9. Was the presenter easy to understand (circle one)? Yes No

10. Rate the overall quality of instruction:

| 1    | 2 | 3  | 4 | 5         |
|------|---|----|---|-----------|
| Poor |   | Ok |   | Excellent |

11. Rate the overall quality of the program:

| 1    | 2 | 3  | 4 | 5         |
|------|---|----|---|-----------|
| Poor |   | Ok |   | Excellent |

12. List 3-5 things in the program you enjoyed the most.

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13. List 3-5 things in the program you disliked the most.

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14. In what ways could the program and the instructor have helped you more?

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15. In your opinion, how can the program be improved?

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16. Would you recommend this program to other players? Yes      No      Not Sure  
Why?

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17. Describe the types of players that can benefit from this program the most.

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18. Please write anything you feel is important in the space below.

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Thank you!  
Larry

## APPENDIX G

### Pre-Program Interview Guide

#### **Playing Tough and Clean Hockey**

##### Pre-Program Interview

Name:

Date:

Time:

Hi \_\_\_\_\_, thanks for agreeing to do this interview today. This interview should take between 30-45 minutes depending how much we talk. Before we start I want to let you know that I will be taking notes and also recording this interview so that I don't lose anything important you tell me.

The purpose of this interview is for me to get to know you better. Please feel free to discuss anything you think is important. Also, it is essential that you say whatever you are thinking – this is what is the most useful. Please try not to give me the answers you think I want to hear or your parents or coaches would want you to say. This interview is confidential, only my research team will see my notes or listen to the tape. Your coach, parents, and teammates will not have access to this information, unless you want them to have it. Therefore, feel free to say whatever you like because there are no consequences for speaking your mind in anyway. And, remember, you have the right to not answer any questions I ask or to stop this interview at anytime.

Okay, I think we are ready to begin. Do you have any questions before I turn on the recorder?

Warm-up:

1. What are your strengths as a player?
2. What areas would you like to improve about your game the most?
3. What makes a hockey player great?
4. Explain to me what type of player you consider yourself

Experiences:

5. In your opinion, what is dirty and aggressive hockey?

6. When does it usually occur?
7. What have your experiences been with dirty and aggressive hockey?
8. How have your coaches reacted to dirty and aggressive hockey in the past?
9. How have your parents reacted to dirty and aggressive hockey in the past?
10. What do your teammates think about dirty and aggressive hockey?
11. Describe a person who exemplifies dirty and aggressive hockey play?

#### Values

12. Are there times when it is okay to play dirty and aggressive? What are these times?
13. Is okay to take a player out of the game? When is it okay?

## APPENDIX H1

### Playing Tough and Clean Hockey Brochure

## THE PLAYING TOUGH AND CLEAN HOCKEY PROGRAM

### 2004-2005 Season

- Are you a tough, physical player?
- Do you take penalties because of your tough, physical play?
- Do you want to become a physically, mentally, and emotionally tough player?
- Are you a serious hockey player that wants to improve your game?
- Are you 13 years of age or older?
- If you said yes to these questions, then the **Playing Tough and Clean Hockey Program** is for you!



Larry Lauer is the coaching education coordinator at the Youth Sport Institute at Michigan State University, and an Advanced Level USA Hockey coach.

The Playing Tough and Clean Hockey Program is a free 12 session program led by Larry Lauer, USA Hockey Advanced Level Coach and sport psychology consultant. He has experience working with hockey players in managing their emotions and aggression, as well as learning to cope with these things in his own game. In this program you will learn and/or improve the following on and off-ice skills:

- Centering, or the ability to relax and refocus while skating;
- Controlled breathing;
- Hockey productive thinking; and,
- The 3 R's On-Ice Routine to refocus on playing hockey even when frustrated or angry.

By committing to participate in this program you also will gain other benefits:

- Better performance because you will be focused on playing the game (you won't miss scoring opportunities as often),
- Improved on-ice ***emotional toughness*** – putting you in control of how you want to respond,
- The reputation of being a tough and clean player that respects everyone on the ice including teammates, opponents, and referees, and,
- The ability to ***“Play tough and clean”*** in any situation.

Other benefits you gain from the program are:

- The opportunity to work with a personal sport psychology consultant for the whole 2004-2005 season!
- Free Test of Performance Strategies evaluation and report to help you assess your mental toughness.
- Rewards for coming to all 12 sessions.

While you will be learning new skills or improving existing ones, Larry and his research team will be assessing the effectiveness of the program. This is done to develop the best program for you and for future players.

So, what are your responsibilities when you join the program?

- Completing a two-page post-game form after every game;
- Allowing your games to be videotaped for the entire season (which you have access to);
- Taking part in an interview before and after the program;
- Being at every session on time;
- Coming to sessions prepared – have your binder, a pencil, and assigned work;
- Being open and honest;
- Talking and discussing about previous games and progress in playing tough and clean hockey;
- Practicing emotional toughness skills regularly;
- Treating this program just like practice – if you have a conflict let Larry know ahead of time; and,
- Making a genuine effort to play tough and clean hockey and to learn the skills in this program.

You should also know that you have rights:

- What happens during the program is ***completely confidential*** – this means that no one besides the research team will see the game video tapes, the post-game forms you complete, or notes from meetings,

- You have the right to not participate, or stop participating at any time, and also the right to not take part in any aspect of the program without penalty or repercussions, and,
- This is not a program that GLAHA expects you to attend, and coaches will not use information from this program to select players or determine playing time.

Great, now that you have a better understanding of the Playing Tough and Clean Hockey Program, join by emailing Larry Lauer at [lllauerl@netscape.net](mailto:lllauerl@netscape.net) or calling xxx-xxx-xxxx (the Youth Sport Institute at Michigan State University) and leaving your contact information with (xxxx). Please contact me ASAP as the program starts at the beginning of the season.



## APPENDIX H2

### Email to Coaches about Program

Dear coach,

Hockey is a demanding sport requiring speed, agility, soft hands, a sharp mind, and physical toughness to take and give a check. Hockey also requires that players be mentally and emotionally tough because of its grueling nature. To be successful a player must be able to work through tight checking and solid goaltending without becoming frustrated. Coaches and parents often stress the need to maintain composure and emotional control in hockey, yet it is difficult to do so during the heat of competition. In addition, youth often lack the skills to maintain their composure in adverse situations.

At UNC Greensboro several colleagues and I developed a program called “Playing Tough and Clean Hockey” to assist players in being emotionally tough and maintaining their composure during intense hockey games. The purpose of the program is to reduce the amount of dirty, aggressive play, while improving the player’s mental and emotional toughness. Players learn to handle the most frustrating hockey situations by refocusing on the task at hand and getting their mind back on hockey. Therefore, the goal is to enhance their performance by re-channeling their emotion and energy to playing the game tough and clean!

Playing Tough and Clean Hockey is a 12 session program where I meet with the player one-on-one and provide individualized teaching. Players learn skills such as controlled breathing under pressure, positive thinking, and the ability to refocus in adverse on-ice situations. Other benefits for being involved in the program:

- Able to take a body check and stay in the play
- Decrease Penalty Minutes
- Become a stronger, smarter competitor
- Be emotionally and mentally tough
- Decrease chances of injury
- You have your own personal coach for the Year!!
- Free Test of Performance Strategies evaluation and report
- Rewards for making all 12 sessions may include tickets to games, hockey or mental toughness books, etc.

At this same time I am researching the effectiveness of this program so there are several things participants need to do during the season. First, the participant’s games are

videotaped for the whole season. Second, participants complete a post-game form after every game. Third, players are interviewed by me prior to and after the season. Fourth, and finally, players must commit to coming to the sessions and completing the forms for the program to be successful.

Now that I'm at Michigan State University and working on my dissertation to complete the doctoral program at UNC Greensboro, I am looking for 4-6 youth hockey players (ages 13 or older preferably) to participate in this program. These players should be recognized by coaches as tough players that frequently take penalties and are likely to be involved in dirty, aggressive play on the ice. Players can be male or female.

This is where I greatly need your assistance. I would appreciate it if you would identify players that would benefit from this program and meet the criteria listed above. If you have potential participants please contact me (or even better yet have the potential participant's parent contact me) at [lllauerl@netscape.net](mailto:lllauerl@netscape.net) or at the MSU Youth Sport Institute at xxx-xxx-xxxx.

Thank you for your time and assistance,

Larry Lauer, MS  
Coaching Education Coordinator  
The Institute for the Study of Youth Sports  
Michigan State University

Mental Coaching Consulting

## APPENDIX I

### Individual Program Intervention Session and Exercise/Strategy Matrix

#### Program Intervention Session and Exercise/Strategy Matrix

Goals: (1) Reduce aggression; (2) Enhance emotional toughness or channel emotions in a socially acceptable manner related to aggression(i.e., anger, frustration)

| <b>Competency Skill</b>                     | <b>Component</b>   | <b>Teaching Method/Exercises</b>  | <b>Session #</b> |
|---|--|---|------------------|
| <b>Sensitive to Playing Tough and Clean</b> | Understand Aggression – difference between aggressive vs. assertive behavior   | Tough vs. Aggressive Behaviors Hockey Stick Profile –defines, list and discuss behaviors we target, and then they can add | 1                |
|   |  |   |                  |
|   | Recognize that aggression has negative consequences that outweigh any benefits | Tough vs. Aggressive Profile Metaphor – do things outside the stick will not play well                                    | 1                |
|   |  | Injury “shock” video  | 1                |
|   |  | Popular articles about hockey aggression  | 1                |
|   |  | Reflection on pain felt when hit aggressively, or when hurt someone else  | 1                |
|   |  | Pro’s vs. con’s cost-benefit analysis of aggressive behavior  | 1                |

|  |  |   |                     |
|--|--|---|---------------------|
| <b>Increase Compassion/Empathy</b>         | Break down barrier that aggression is “cool” | Discussion how it hurt when injured due to aggressive hit and how it would hurt others (listed above as well)   | 1                   |
|  |  | Reflect on a time when you hurt another player and a time when you were hurt  | 1                   |
|  |  | Homework: Watch game and write down aggressive acts and results of the act  | dist. In 1 due in 2 |
|  |  | Read an article about the negative consequences of aggressive behavior  | 1                   |
|  |  | Moral dilemmas/scenarios:<br>Pause/replace role play – brief demo before pain section   | 1, 2                |
|  |  |   |                     |
| <b>Develop Emotional Control/Toughness</b> | Understand Emotions and their Value          | Discussion on emotions  | 2                   |
|  |  | Value of emotions   | 2                   |
|  |  |   |                     |
|  | Explain Emotional Toughness                  | Discussion on how you control your emotional response   | 2                   |
|  |  | Use of optical illusion to show how your perspective is not the same as someone else's – role or perspective taking/ you can control perspective can also control emotional reactions | 2                   |

|                                     |  |  |                         |
|-------------------------------------|--|--|-------------------------|
|                                     | Understanding how thoughts affect our emotions | Refuting and replacing aggressive thoughts worksheet                         | 3                       |
|                                     | 3 R's Refocusing Routine                       | Lecture on 3 R's   | 3-4                     |
|                                     |  | Identify hot buttons worksheet   | 3                       |
|                                     |  | Rewire hot buttons worksheet   | 4                       |
|                                     |  | Develop 3 R's Routine  | 3-9                     |
|                                     |  | Log Hot Button Situations  | Assigned in 3, due in 4 |
|                                     |  | Overcoming roadblocks to using 3 R's   | 5                       |
|                                     |  |  |                         |
| <b>Refocus and Channel Emotions</b> | Develop 3 R's Refocusing Routine               | Discussion about transferring to game situations                             | 4                       |
|                                     |  | Develop on-ice 3 R's routine – rewire  | 3                       |
|                                     |  |  |                         |
|                                     |  |  |                         |
|                                     | Imagery  | Imagery Practice of 3 R's  | 6-9                     |
|                                     |  | Imagery Training   | 6                       |
|                                     |  | Log Imagery Practice   | 6-9                     |
|                                     |  |  |                         |
| <b>Stress Management Skills</b>     | Recognize effect of stress on behavior         | Discussion about emotion, energy, and stress                                 | 5                       |
|                                     |  | Example – Bucket and puck game/ shoot puck in bucket, then do while stressed | 5                       |

|   |  |  |                                    |
|---|--|--|------------------------------------|
|   | Relaxation                               | Controlled breathing practice and log  | Assigned in 2,<br>due in 3 & 4     |
|   |  | Centering practice and log   | Assigned in 4,<br>due in 5 & 6     |
|   |  | Imagery  | Assigned in 6,<br>due in 7, 8, & 9 |
|   |  |  |                                    |
| <b>Self-regulation of<br/>Emotions and<br/>Aggression</b> | Reminders to maintain<br>control         | Cue awareness – 3 R's or control cue on<br>stick "Stick it"  | 4                                  |
|   |  | Becoming my own teacher goal setting<br>activity   | 7                                  |
|   |  | Commitment signature to doing the skills<br>taught in the program  | 7                                  |
|   |  | Goal setting activity to continue playing<br>tough and clean hockey  | 7-9                                |
|   |  |  |                                    |
|   | Emotional Management<br>Outside the Rink | Discussion about how life stress/emotion<br>influences hockey behavior. Attempt to<br>"park" and also accept/manage these<br>emotions. | 5                                  |
|   |  |  |                                    |
|   | 3 R's Mastery                            | Practice of 3 R's  | Begins in 4,<br>goes to 9          |
|   |  | Reflection and logging of 3 R's practice   | Begins in 4,<br>goes to 12         |
|   |  | Role play 3 R's  | 3-9                                |

|  |  |   |                            |
|--|--|---|----------------------------|
|  |  | Visualize 3 R's   | Assigned in 4,<br>due in 5 |
|  |  | Video review of pertinent behaviors                         | 6-9                        |
|  |  |   |                            |
| <b>Transferring Skills to<br/>General Life</b> |  | Setting goals to use emotional<br>toughness skills in life. | 8-9                        |

## APPENDIX J

Playing Tough and Clean Hockey Program (Individual Version) Instructor Guide

# Playing Tough and Clean Hockey Individual Program

## Instructor Guide

(Abbreviated Program Version)

This program and its contents are currently in development and are property of the Institute for the Study of Youth Sports, Michigan State University and the University of North Carolina Greensboro. It should not be reproduced, used commercially, or published in any manner without permission. Contact Larry Lauer for more information.

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**University of North Carolina Greensboro**



***Program Introduction and Session 1: “Playing Tough and Clean Hockey” (page 6)***

**Purposes: Education on Tough and Clean Hockey; develop buy-in**

- a. Facilitate empathy and compassion from player for others
- b. Recognizing differences between dirty and aggressive and tough and clean
- c. Discussion on negative consequences of dirty and aggressive play

*\*Give the program handout to the player.*

***Session #1: Playing Tough and Clean Hockey (65-70 minutes)***

***Warm-up: Program Introduction (20 minutes)***

**\*\* Begin by showing clip from “Checking from Behind” or “Smart Hockey” video (10 minutes)**

- A. Show video clips of players using aggressive behaviors and then hurting a player or being hurt
- B. Shock into buy-in to the program, emphasize to player that players do get hurt from playing dirty and aggressive hockey.
- C. Ask player what he or she saw in the video.

\*\*\* Discussion: Ask the player if he believes that he plays dirty and aggressive. Also, ask if he believes he needs to change his on-ice behavior.

(Here you are attempting to see if the player is contemplating change or is in pre-contemplation. Will influence how you approach the program. In pre-contemplation need more sell, whereas those in action just need the tools!

1. Introduce the program – page 274: “Playing Tough and Clean Hockey” (5 minutes)
  - A. Instructor should first ask player to write out what he or she thinks “Playing tough and clean hockey” means in his/her own words. This will provide us an idea of where the player is coming from. Pause and allow to think and respond.
  - B. Discuss the game plan, including the program motto, “Playing Tough and Clean Hockey.”
  - C. Discuss Goals of the Program

- D. Discuss benefits
  - E. Discuss skills that they will learn
    - Ask player if understands why he or she is here
    - Give the roadmap (the progression of skills) so it is clear how he or she will play tough and clean hockey
2. Opening Remarks/Reminders (5 minutes)
- A. Need commitment and interest in the program (go to commitment page 275)
  - B. Commitment – wouldn't practice half-speed
  - C. Pro players use these skills to play better and play smart and clean
    - i. Specific hockey examples of “positive” behavior, of skill application? Why is it useful to act this way? Will it help you win games? Personally, I think it does, but that might get disputed; after all aggressive behavior often gets reinforced positively – attention, TV time, successfully intimidating opponent, providing a “spark” for your team, changing momentum, etc.) – Peter Haberl
    - ii. Andrew Archer – Hamilton newspaper example
  - D. Interact and have fun – will get much more out of the program
  - E. Your commitment is important
    - i. These are skills pro's use
    - ii. Consider it part of your practice to come to these sessions
      - 1. (have coach reinforce these messages)
  - F. Read my commitment to the player and sign
  - G. Have the player agree to their commitment to the program and sign
  - H. Binder – taking care of it; overview of the sessions (Table of Contents)

Move to Page 276, Shift 1: “Playing Tough and Clean Hockey”

Start discussing Page 276, “Play tough and clean hockey” (15 **minutes**)

A. What is dirty and aggressive hockey? Instructor reads points A & B and then moves to Page 277, “Tough vs. aggressive hockey” worksheet.

B. Implement stick profile worksheet to teach aggression definition. Ask player what behaviors on-ice are tough and clean, and what are dirty and aggressive. Have the player write all tough and clean behaviors on the stick and puck, and all dirty and aggressive outside the stick and puck. Discuss why a behavior is categorized tough and clean or dirty and aggressive. Pause and allow ample time to do exercise.

- C. KEY: Recognize the difference between tough and clean, and dirty and aggressive. You are trying to hurt someone, or get the advantage by hurting someone, when you are dirty and aggressive.
- D. Finish with a Hockey stick profile metaphor – outside the stick (aggression) does not help you score! (For defenseman keep the puck out of the net)
  - Return to Page 276 (previous page), point C. Have the player write out their definition of tough and clean hockey.
  - At point D, ask the player to discuss which type of aggression they are more likely to have – instrumental or retaliatory?
    - (This influences the type of strategies implemented. More empathy, respect, sportsmanship type discussions with instrumental; retaliatory – 3 R's and skills.)

Move to # II on Page 276. Do “have you ever been injured from playing hockey” exercise. (10 minutes)

- A. Empathy/Compassion – how much pain have you been in after someone hurt you?
  1. Freeze and Replace Role Play: the lead instructor and assistant demonstrate an aggressive play and how it hurts. (Sets up later role play where player steps in after freeze and shows appropriate behavior; maybe video and do in later session)
- B. Empathy/Compassion Discussion (taking another's perspective) – discuss how much it hurt to be hit aggressively or to be hurt, and then have them talk about how much someone else feels from being hurt. Pause and allow time to discuss.
  - Describe one of my incidents and how I felt bad about it
    - Use Steve Moore example of being hit from behind by Bertuzzi (if needed)
  - Ask player if he or she has a personal example of situation where a person was hit illegally and injured
  - Now, have the player give an example when he or she was hurt by an aggressive play
  - Finally, finish with the player giving an example when he or she was aggressive and hurt an opponent
    - Have the player describe situation in great detail

- C. Have the player color in the face that represents the pain they felt, and the pain their opponent felt.
- D. The goal is to get him or her to think about that aggression does hurt, and I have hurt other people – begin building empathy and compassion for others.

Conduct a Cost-Benefits Analysis of the Positive and Negative Consequences of Dirty and Aggressive Play (10 **minutes**) Page 278

- A. Ask the player to list as many positive consequences or outcomes of dirty and aggressive behavior in hockey as they can think of.
- B. Next, ask the player to list as many positive consequences or outcomes of dirty and aggressive behavior in hockey.
- C. Players write their answers on Page 278, “Positive & Negative Consequences of Dirty and Aggressive Behavior.”
- D. Be prepared to make counterarguments to the positive consequences. Argument could be based on the sheer greater number of negative consequences, more seriousness of negative consequences, but also in countering positive benefits. For example, if the player says it helps to protect other players counter-argue that one act of dirty and aggressive play is only going to lead to more. Let the aggressor go to the box. And if there is no penalty, turn the other cheek, this will undermine the aggressor trying to bring you into their game. Continue to play physical and clean!
- E. Review “Negative Consequences of Aggressive and Dirty Play” on Page 279.
- F. The goal for the exercise is to get them thinking about the bad things that can happen when one resorts to dirty and aggressive hockey. Sell the program!
- G. Finish by reading the bottom of Page 279, “Losing emotional control can cost you, your team, and your opponent.” “Play hockey tough and play it clean!” “We will do this by learning to control our emotions and on-ice behaviors.”

Read the directions to at-home activity#1, Page 280: Watch pro game (provide tape) and look for aggression and the result/come ready to discuss next meeting. (5 **minutes**)

\*Make sure to ask if they have questions about the homework, next meeting, or any of the content!

Also handout article on aggression leading to injury (find article)

Discussion: Ask the player, do you feel you need to change your play on the ice to be tough and clean? (Has there been a change in their contemplation?)

What are the participant's goals for the program

***Session 2: Understanding Emotions and Emotional Toughness (70 minutes) (page 281)***

**Purposes: Understanding Emotions and Emotional Toughness**

- a. Understand role of emotion in hockey and its functional value
- b. Discuss perspective on different moral situations in hockey; cognitive appraisal and refuting aggression-producing thoughts
- c. Learn about emotional toughness
- d. Introduce controlled breathing

**Agenda**

\*\*\*Quick review – What is dirty and aggressive hockey?

What is tough and clean hockey?

1. Discuss Homework (10 minutes)
  - A. Have player talk about how much aggression he or she saw and what the results of that aggression were. (10 minutes)
  - B. Highlight the negative (and positive) consequences of aggression.
2. Review: Role-taking and Moral Dilemmas – Pause Replace Role Play (10 minutes)
  - A. Set up role play did with assistant last session. This time pause and put the player in the role play. Role play can be a player along the boards (who slashed the player on the hands earlier in the shift) and you need to gain the puck.
  - B. Looking for a moral decision – hurt the player and take the puck or hit clean, and battle for the puck.
  - C. Discuss why you would want to take the tough and clean route in this moral dilemma.

**TRANSITION:** Why do you think so much aggression occurred in the game you watched? (Get at the role of emotion in aggressive and dirty play)

3. Define Emotions – intensity of emotions and their role of importance in hockey (10 minutes)

- A. Show video (Bertuzzi, Game 7 Canucks/Flames & Game 6 Flyers/TB or ESPN opening to a playoff game)
  - B. Ask the player - when down a goal, receive a slash on the hands – how respond in the past?
    - a. Have player talk about emotions/feelings/thoughts they have
  - C. Define Emotions – intensity of emotions (5 minutes)
    - 1. Before turning to page 281, ask player what she thinks are emotions are and if they are important in hockey?
    - 2. Discuss what are emotions?
      - a. Feelings that are momentary and feel automatic.
      - b. Two components to emotion:
        - a. The type of emotion
        - b. The intensity or strength of that emotion
  - D. Why are emotions important?
    - 1. Emotions are powerful, momentary feelings that feel automatic & out of your control.
    - 2. Why are emotions important? Emotions make the game fun, give us energy, and are a part of the ebb and flow of the game.
    - 3. Emotion can also have negative consequences such as aggression and decreased performance.
  - E. As you saw in the video can also have negative consequences such as aggression and decreased performance.
  - F. Show Emotion-Aggression Model (page 281) – relate to player how aggression occurs in hockey
    - i. Give example of Bertuzzi Game 7 via the model
    - ii. “Emotion is an athletes’ greatest obstacle in sports because they are so forceful and immediate” (Taylor, 2000)
    - iii. Players are guided by their emotional reactions (Taylor, 2000)
    - iv. “Whoever loses emotional control first loses the competition” (Taylor, 2000)
4. Discuss emotions you have control (page 282) – different types and functional value (use Botterill & Brown, 2002 (p. 42) & Botterill, 1996 articles to help provide examples of the value of emotions) (10 minutes)
- A. Ask player to list emotions they can think of (page 282)
    - a. Talk about the functional value of these emotions (page 282)
      - i. Fear – can trigger preparation, prevent complacency, and facilitate focus.
      - ii. Anger – a call to compete, to fight and perform for what you deserve
      - iii. Embarrassed – help us learn, and trigger coping responses

- iv. Sadness – reflection, re-evaluate usually end up happy to be alive and refocused on our interests
  - B. Then ask him or her to list the emotions they have when they are or feel aggressive
  - C. Talk about emotional control and a loss of Emotional Control - meaning you are unable to restrain emotions on the ice, and this negatively influences hockey performance.
  - D. Ask the player what happens when he or she loses emotional control? (use the following negative consequences as examples or ways to get the player rolling).
    - a. Negative consequences of a loss of emotional control
      - i. Retaliation and aggressive behavior
      - ii. Lose focus on the process of playing hockey
      - iii. Focus on the wrong things (i.e., hurting someone)
      - iv. More penalty minutes
      - v. Decreased performance
5. Discussion on Emotional Toughness – “you control your response” (10 minutes) (page 283)
- A. Optical Illusion – “you control your response” example. Have player view an optical illusion to show them that their perspective can be different than someone else’s and can change as well. (use assistant as confederate, see the opposite of the player).
  - B. Talk about how things frustrate you in other situations (i.e., church and rink example – “do you hit someone when they take your seat at church”), do you try to hurt someone?
  - C. Define emotional toughness by reading the points under this section III remembering to emphasize that you do not necessarily have much control over what you feel, but how you respond to it.
    - 1. Point the pucks on page 14
6. **1<sup>st</sup> Emotional Toughness Skill:** Intro to controlled breathing (page 283) – need it because emotions raise energy level too high and may respond aggressively (10 minutes)
- A. Go to Controlled Breathing ToolBox on page 283
  - B. Read the toolbox and then demonstrate controlled breathing
  - C. Next have the player do controlled breathing while focusing on the cadence
    - i. Complete the first trial in the breathing control log on page 284
  - D. Then, have the player add a breathing cue word once he or she has the cadence and feel of controlled breathing learned
7. Homework – log controlled breathing practice (5 minutes)

- A. Complete just as you did during our practice a moment ago.
- B. Express the importance of practicing controlled breathing.

For Meeting #3: **Controlled Breathing Practice** \_\_\_\_ (5 minutes, 2 times per day until next meeting)

8. Ask if the player has questions.

*Session 3: Developing Emotional Toughness Steps 1 & 2: The 3 R's (70 **minutes**) (page 285)*

**Purposes: Developing Emotional Toughness Steps 1 & 2: The 3 R's**

- a. Complete 1<sup>st</sup> 2 steps of 3 R's Development
- b. Learn about the first "R" – respond
- c. Identify personal hot buttons
- d. Discuss perspective on different moral situations in hockey; cognitive appraisal and refuting aggression-producing thoughts

**Agenda**

1. Review log of controlled breathing practice on page 284 (5-10 **minutes**)
  - a. Have the player look at patterns and try to come up with his or her own conclusions (self-regulation)
  - b. Focus on thoughts of worries and feelings of tension before and after the controlled breathing exercise.
  - c. If successful, the player should obtain a relaxation response associated with a feeling of calmness and comfortability, with a reduction of tension.
  - d. Ask the player if they used their breathing word, and if so, did it help.
2. Review emotion and emotional toughness on page 285 (2 **minutes**)
  - a. Have the player answer the question what is emotional toughness?
  - b. Emphasize that emotional toughness is the core concept trying to achieve in the program.
3. Discuss the 4 Steps to Developing Emotional Toughness: 4 steps (10 **minutes**)
  - a. Show video clips of Bertuzzi and Roenick/Bruin responses (on computer)
    1. Relate how the player made poor decisions that cost the team
  - b. Walk the player through the 4 steps (The roadmap to emotional toughness)
  - c. Emphasize that you will focus on the 1<sup>st</sup> 2 steps today
  - d. Stress that these steps lead to the development of their personal 3 R's
  - e. Emphasize that this is the strategy for developing emotional toughness that they will use on the ice



4. Discuss briefly what the 3 R's are and demonstrate (10 **minutes**)
  - a. Respond, relax, refocus – go through what each means and what you do (page 286)
  - b. Provide a demonstration of the 3 R's
    - First demonstrate a poor reaction
    - Then 3 R's reaction (do my personal 3 R's when being high stucked; tell story of being slashed in chest with a stick at Nationals)
    - May show videos again to reemphasize how effective using the 3 R's can be (getting back into play quickly)
5. Discuss first "R" respond in greater detail on page 286 Step 1 (2 **minutes**)
  - a. Read the points emphasizing the acceptance of emotion.
6. Hot Buttons – Identify When You Lose Control (20 **minutes**)
  - a. Go to Page 287, Worksheet "Identifying Your Personal Hot Buttons in Hockey"
  - b. Role play how normally respond to hot buttons and different hockey moral dilemmas
    1. I first demonstrate how I respond to my hot button (stick in the face, lose control and swing stick back)
    2. Role play how NHL players often respond to classic hot buttons
      - a. Spray snow on or run into the goalie
      - b. Hit a teammate from behind
  - c. Read the directions. Have player answer all questions on Pages 287-288.
  - d. Guide the player through the questions.
  - e. Discuss answers for each question and provide examples to help him or her think about it.
  - f. Role play with player how the player normally reacts to his or her hot button in hockey.
    1. Role play not only the behavior but the thoughts and emotions
7. Go to exercise Refuting and Replacing Aggressive Thoughts on page 289. (15 **minutes**)
  - a. Stinking Thinking: The Origin of Aggression deals with the cognitive appraisal of the player to different hot button situations
  - b. Purpose: To begin to be aware of the thought processes that lead to aggressive behavior.
  - c. Discuss points a- c relative to stinking thinking that leads to aggression.
  - d. Read the examples in point d.

- e. Ask the player if he or she sees any problems with those statements. Want him or her to recognize how it affects aggressive behavior.
  - a. Problems with these statements are the ones listed in point c.
- f. Now ask them to go back to their hot buttons and the thoughts they have. List the stinking thoughts under point f in the table on page 289. Also, have them tie the hot button event to this stinking thought.
- g. Now ask him or her what problems he or she sees with these stinking thoughts.
- h. Then move to refuting these thoughts – why are they illogical and unproductive?
  - Reasons to refute:
    1. The world isn't fair. Need to deal with it and move on.
    2. Body contact is a part of the game.
    3. People aren't usually trying to hurt you.
    4. You do not need to show how tough you are by being aggressive. Hit them where it hurts – on the scoreboard.
    5. Let the officials deal the punishment.
    6. It happens to everyone on the ice at some point, don't worry about it.
- i. **Discussion Point:** What if the player meant to hurt me? You still have to think effectively. Do you want a reputation of a dirty player as well? What do you think of dirty players? Will it help you play well to go after this guy? No. Hit them clean when you get the chance, but don't let him win by getting you to be dirty and aggressive.
- j. Have the player refute their illogical and unproductive thoughts understanding that he or she will need time to accept this new perspective.
- k. Next, talk about how you would replace these thoughts with something positive – this leads to the development of the 1<sup>st</sup> R of the routine.
- l. Do this by having them fill in the table on page 290 while thinking about positive replacement statements to their hot button stinking thoughts.
- m. After doing this have them think about how they would like to respond during their hot button situation.
- n. Now have them create the 1<sup>st</sup> R.
 

NOTE: You might need to give them examples here, also you might run into some “hot button” thoughts that will initially prove fairly resistant to change, which means you need to be prepared to through more than one cognitive technique at it.

  - a. Ignore it
  - b. No problem
  - c. Didn't hurt
  - d. Tough and Clean!
  - e. Tough
  - f. Armor

8. Present the At-Home Activity #2 “Logging Your Hot Button Situations” on Page 291. (5 **minutes**)

A. Have players list any hot button situations, their response and if they used the 1<sup>st</sup> R – respond (respond in a positive manner to the hot button).

B. They are to complete the log and bring it back for the next meeting.

C. Player should also continue to practice controlled breathing and log it.

For Meeting #4: **Logging Your Hot Button Situations** \_\_\_\_ (complete log anytime have a hot button situation)

**Controlled Breathing Practice** \_\_\_\_ (5 minutes, 2 times per day until next meeting)

*Session 4: Developing Emotional Toughness Steps 3 & 4: The 3 R's (80 **minutes**) (page 292)*

**Purposes: Developing Emotional Toughness Steps 3 & 4: The 3 R's**

- a. Complete last 2 steps (of 4) of 3 R's Development
- b. Learn about the second and third “R's” – relax and refocus
- c. Discuss centering and try out
- d. Personalize own 3 R's routine
- e. Transferring 3 R's to Game Situations

**Agenda**

1. Review log of hot button situations (page 291) & 2<sup>nd</sup> week of controlled breathing log (10 **minutes**)
  - a. Ask player to discuss any problems he or she had, or patterns they observed relative to times when hot button occurred
  - b. Controlling breathing log: Is the player belly breathing?
2. Review by asking the players what are the 3 R's (page 292)? (2 **minutes**)
  - a. Ask him or her what he or she selected as the 1<sup>st</sup> R last time.
3. Reintroduce 3 R's and demonstrate again. (2 **minutes**)
4. Discuss the 2<sup>nd</sup> “R” relax on page 292 (read the following points) (2 **minutes**)

- a. **Relax** – negative emotions occur, your next step is to calm down immediately
  - b. Have a method for releasing the emotion and getting back into play
  - c. We will use the skill of centering as the 2<sup>nd</sup> “R”
5. 2<sup>nd</sup> Emotional Toughness Skill: Centering (On-ice Emotional Toughness) (5 **minutes**)
  - a. Read the points underneath and discuss on page 292
6. Move to Centering: On-Ice Emotional Toughness on Page 292. (10 **minutes**)
  - a. Discuss centering, a balanced hockey stance, and have player practice centering in hockey stance (see Toolbox: Centering on Page 293).
  - b. To show the value of centering do the push/balance exercise. I will first get in a centered stance and have the player push me, showing my balance. Shows the balance and strength you gain from a centering. Repeat with the player in centered stance.
  - c. Discuss that in addition to centering a player can say something relaxing, readying, etc. as they exhale.
  - d. Discuss when centering can be used on-ice. Stress that centering can be used at anytime to recover from fatigue, pain, or frustration!
7. Brief practice of centering (2-3 **minutes**)
  - a. Have the player complete the centering log for their brief practice on page 296.
8. Discuss 3<sup>rd</sup> “R” refocus on page 293 (5 **minutes**)
  - a. Read the points emphasizing the need to get the mind from thinking of retaliating to playing hockey.
  - b. NOTE: Refocusing to me means knowing what to focus on once you realize that you have lost focus (do to “hot cognitions”) regained you composure and the “refocus”, so here they need to know what to focus on and then “cue” it with a word such as “backcheck” or “pick up the open guy” (Peter Haberl)
  - c. This is the transition to the Rewiring hot buttons activity.
9. Move to Worksheet “Rewiring Your Hockey Hot Buttons”, Pages 294-295 (15 **minutes**)
  - A. Read the directions. Ask the player why it is important to rewire your hot button.
  - B. Guide the player through each of the questions providing examples and soliciting responses.
10. Develop 3 R’s (10 **minutes**)

- a. At point 4 go back to Page 286, “Toolbox: The 3 R’s for Refocusing” and discuss the 3 R’s. When finished, go back to the worksheet on “Rewiring hockey hot buttons” and have the player set a preliminary 3 R’s routine.
  - b. Continue to provide examples to help the player, and refer back to their previous worksheets.
- 11. Next talk about how to practice the 3 R’s and tell the player to visualize it for next week – once per day for 5 minutes. Should be preceded by controlled breathing. Show exercise. (5 **minutes**)
- 12. Role-Play their Hot Button Situation and the 3 R’s response (5 **minutes**)
  - a. Discuss how confident they feel in their 3 R’s routine.
  - b. Emphasize that you are doing it in an artificial situation and will be better on the ice.
- 13. Homework: visualize and walk through 3 R’s/log it and practice centering and log it. (pages 296 and 297)

**3 R’s Visualization Log** \_\_\_\_ (practice 3-5 minutes per day, every day until next meeting)

**Centering Log** \_\_\_\_ (practice 2-3 minutes per day, every day until next meeting)

- 14. Discuss transferring to game situations (5 **minutes**) (on page 295)

*Session 5: Understanding Energy, Stress, and Emotion (115 **minutes**) (page 299)*

**Purposes: Understanding Energy, Stress, and Emotion; Energy Management**

- a. Learning about stress, energy and how it relates to emotion and aggression
- b. Practice centering and controlled breathing
- c. Train 3 R’s
- d. Introduce imagery of 3 R’s

**Agenda**

- 1. Briefly review last time (5 **minutes**)
- 2. Review centering log (page 296): discuss player’s practice of the skills (5 **minutes**)
  - a. Are you able to expand the diaphragm during the inhale?
  - b. How do you feel afterwards?
- 3. Do centering session with controlled breathing (10 **minutes**)
  - a. Review practice and take notes using the “Centering log” on page 296

4. Review log of 3 R's visualization on page 297 (10 **minutes**)
  - a. Questions to ask:
    - i. How successful were you in seeing yourself doing the 3 R's?
    - ii. How did you feel following this visualization of the 3 R's? (more confident?)
    - iii. Do you feel you can successfully do this routine?
5. Role-Play their Hot Button Situation and the 3 R's response (10 **minutes**)
  - a. Discuss how confident he or she feels in their 3 R's routine.
  - b. Emphasize that you are doing it in an artificial situation and will be better on the ice.
6. Emotional Toughness Skills practice review (see page 299) (10 **minutes**)
  - a. Purpose: Develop microstrategies for overcoming roadblocks to using the 3 R's
  - b. Ask the player "What are some possible roadblocks to using your 3 R's routine?"
    - i. Have the player fill in the left column with obstacles they could face
    - ii. Typical obstacles heard in the past – forgot to practice, can't remember the steps
  - c. Ask the player "How will you overcome these roadblocks?"
7. What are stress and energy and how they affect me? (2 **minutes**)
  - a. Intro this section by talking about how the energy in our body, or physical activation, influences us when we are dirty and aggressive
  - b. Show emotion and aggression model again on page 281 pointing out physical response.
8. What is Energy? (2 **minutes**)
  - a. Read points A-D, emphasizing that he or she has a unique level of energy needed to be under control and reach peak performance
9. How Does Energy Affect Me? (5 **minutes**)
  - a. Read points A – C emphasizing that our energy influences our emotions and behavior
  - b. Have the player circle what they their optimal energy and emotional level is on the scale at the bottom of page 299.
10. Transition to Shooting pucks into bucket exercise (15 **minutes**)
  - a. Purpose: Show how stress influences performance, and how (Due to tension, distraction of focus)
    - i. Set up a bucket against the wall

- ii. Place the player with his or hockey stick 10 feet from the bucket
- iii. Place 10 pucks/balls in front of them
- iv. Ask the player to shoot as many pucks as he or she can into the bucket – no time limit, “take your time”
- v. Give a couple of practice shots
- vi. For the second round give the player 15 seconds to shot all 10 pucks/balls
- vii. For the third round, tell the player that he or she will have to do 50 push-ups unless he or she can improve their score (NOTE: You won’t actually have them do push-ups if they don’t meet the target score).
- viii. Discuss with the player their thoughts on the exercise and what happened as I increased the pressure or stress
- ix. Sample probes:
  - 1. Did you feel pressure?
  - 2. How did that affect you physically and mentally?

11. Transition back to page 300: What is Stress? (5 **minutes**)

- a. Intro something to the effect of: Stress is a part of life and a part of hockey. There is stress to perform well, to win, to help your teammates, gain the coaches’ approval, etc.
- b. Define stress (point a)
- c. Ask the player to list what situations in hockey are stressful to him or her.
  - i. Review the list and discuss how they feel and what happens in those situations

12. Move to the next point “How Does Stress Affect Me?” (3 **minutes**)

- a. Discussion about how stress affects performance, emotions and aggression
- b. Read point A
- c. At point B: Have the player check those that happen to him or her

13. Then move to “What can I do to deal with Stress” and list the coping skills – relaxation and breathing (associate with relax cue of 3 R’s) (2 **minutes**)

14. Discuss why use stress and energy strategies (3 **minutes**)

- a. Review the reasons why these strategies will help the player maintain emotional toughness

15. Discuss Emotional Management (starting on page 32) (15 **minutes**)

- a. Managing your life outside of hockey (e.g., relationships, school work & concerns, etc.) will help you be emotionally tough inside the rink
- b. Give a personal account of how I brought baggage from outside the rink into a game and let affect my emotions – lost emotional control

- c. Ask the player, “What parts of your life outside of hockey do you bring into the rink with you?”
- d. Then have the player discuss their feelings outside of hockey and how it affects them.
- e. Emphasize to the player that the more he or she can manage relationships and time outside of hockey the better off they will be inside the rink.
- f. Explain the notion of “parking” as well. Describe how the rink is sealed off from the rest of the world. Leave your outside distractions and feelings in your bag and zip it shut. It will be there when you come back to the locker room after the game.

16. Review Step 4 of Developing Emotional Toughness: Game Plan on page 301 (5 **minutes**)

- a. This is to emphasize to the player how we will develop their 3 R’s routine
- b. Stress that it is a process, it will take time, you need to monitor your practice and use of the 3 R’s, evaluate its effectiveness, and be willing to adjust if it is not working

17. Homework: Log centering and 3 R’s practice (now in practices & games) (5 **minutes**)

- a. Ask the player to practice centering every night for 2-3 minutes and log it (the same as last week)
  - i. The log is located in the Appendix (page 315)
- b. Also ask the player to use their 3 R’s in practice and games and write any notes on how it went on page 318

For Meeting #6: **Centering Log** \_\_\_\_ (practice 2-3 minutes per day, every day until next meeting)

**3 R’s Practice/Reflection** \_\_\_\_ (physically practice the steps 5 times, once per day & use it in practice and games as needed – put notes in the log)

*Session 6: Rethinking what is Stressful (95 **minutes**) (page 303)*

**Purposes: 3 R’s Practice, Rethinking what is Stressful, and Imagery**

- a. Practice of 3 R’s
- b. Learning to rethink or develop a new perspective on what is stressful
- c. Learning to see and feel successfully doing 3 R’s (imagery)

**Agenda**

- 1. Review log of centering practice (page 315) (10 **minutes**)
  - a. Are you able to expand the diaphragm during the inhale?



- b. How do you feel afterwards?
- 2. Do centering session with controlled breathing (5 **minutes**)
- 3. Review log of 3 R's use/Reflection period (page 318) (10 **minutes**)
  - a. What went right with your practice of the 3 R's?
  - b. What went wrong with your practice?
  - c. General reflections?
  - d. How can improve your practice of the 3 R's?
- 4. 3 R's Role Play of hot button (5 **minutes**)
  - a. Discuss how confident he or she feels in their 3 R's routine.
  - b. Emphasize that you are doing it in an artificial situation and will be better on the ice.
  - c. Talk about how the 3 R's can happen simultaneously while playing the game (it's not 1-2-3)
  - d. Mastering the skill takes time, stick with it.
- 5. Review practice and take notes using the "Post-practice reflection" on page 318. (5 **minutes**)
- 6. Game video of positive and negative responses/reflection & discussion (15 **minutes**)
  - a. Show clips from the previous games (good & bad instances of aggressive and clean play).
  - b. Set the situation by asking the player to reflect on what he or she was thinking and feeling in this situation.
  - c. Ask the player to take notes about their reaction to the video
  - d. Allow the player to react to the situation.
  - e. Probe to understand exactly what is occurring in these situations.
  - f. This is a chance to reinforce what the player is doing right!
- 7. Practice 3 R's: Role Play situations in video (5 **minutes**)
  - a. Review practice and take notes using the "Post-practice reflection" on page 318.
- 8. Discuss rethinking what is stressful on page 303 (3 **minutes**)
  - a. Have the player read the quote and talk about what it means
  - b. Point out that as the Brodeur quote emphasizes, perceiving pressure or stress as a challenge can improve your performance.
  - c. Emphasize the key is that you control your reaction to pressure and stress.
- 9. Imagery of Your 3 R's Routine (page 303) (3 **minutes**)
  - a. Lecture: What is Imagery?

3. Imagery is using your senses, all of your senses, to create or recreate experiences in your mind. “Daydreaming, but with a purpose”
  4. It is the next step up from visualization; you get more for your practice because it is more life-like.
  5. See it and feel it!
  - b. Discussion: Ask the player “Why Imagery?”
    3. Will help you practice in your head your 3 R’s routine.
    4. See it, feel it, believe it!
10. What is Good Imagery? (page 304) (2 **minutes**)
- a. Very clear replay or pre-play –can see it and feel it!
  - b. You control the remote:
    4. It moves at the speed you want.
    5. It stops when you want it to.
    6. It runs when you want it to.
11. How do I use Imagery? (3 **minutes**)
- a. Find a quiet, dark place to relax (like when you go to bed for the night).
  - b. Close your eyes and focus on your breathing.
  - c. Focus totally on breathing; allow distractions to bounce off of you.
  - d. Think about situations that lead to dirty and aggressive play (i.e., hot buttons). In this situation, what are the thoughts and feelings you have? Feel these very strongly as you relive the situation.
  - e. Begin to imagine your hot button situation and how you will respond using the 3 R’s (while reliving these powerful feelings).
  - f. If you see yourself attempting your 3 R’s unsuccessfully, stop, concentrate on your breathing and try again.
  - g. Remember, see it and feel it!
12. Imagery practice of 3 R’s (15 **minutes**)
- a. Have the player do the deep breathing exercise
  - b. Recite the imagery protocol from Mattesi (next page attached)
13. At-home activity #7: Continue practice of 3 R’s and centering and log it, now with imagery (**page 305**) (10 **minutes**)
- a. Read the directions and explain the exercise
  - b. Have the player complete the previous imagery practice on this worksheet

For Meeting #7: **Imagery Practice of 3 R’s Log** \_\_\_\_ (practice 2 times per day, 5 minutes each time and log practice)

**3 R’s Practice/Reflection** \_\_\_\_ (physically practice the steps 5 times, once per day & use it in practice and games as needed – put notes in the log)

## **Imagery Protocol**

### **Suggestions**

1. You should master your relaxation skills before learning imagery.
2. Once in a relaxed state, you can begin to picture yourself in a game setting.

### **Instructions**

1. Approach a place, through imagery, where you have recently retaliated to an opponent's physical instigation (i.e., being slashed across the wrists) or verbal instigation (i.e., using profanity against you) during competition. Allow yourself to experience the sensations that accompany a violating behavior such as being slashed--that is, if you typically get angry and frustrated allow yourself to feel those emotions. Feel these feelings to their fullest. Focus on these feelings for a moment, and accept them as part of the game.
2. Feel the pain and tension in your muscles from the slash. Take a deep breath and feel yourself relaxing your body. Allow the pain to pass through your body by focusing your attention on your belly and sending your breath down to fill your belly. (Integrate their 3 R's at this point.)
3. Imagine yourself focusing on finding the puck and not your opponent. Locate the puck in your mind. Feel yourself skating towards the puck.
4. Concentrate on your body movement towards the puck and skating away from your opponent. Vividly see yourself responding but not retaliating in anger. Feeling determined to go after the puck, while maintaining your playing role in the game.
5. Experience yourself skating hard. Nothing can stop you from going after the puck. Feel yourself gaining separation from your opponent. Skating fast and feeling the frustration and anger leaving from your body as you move towards the puck. You are playing tough and clean hockey!

(Taken from Mattesi (2002) who adapted the protocol from Mental Imagery Protocol in USOC Manual & Aynsley Smith, Power Play, (1999), Athletic Guide Publishing)

*Session 7: 3 R's Practice/Being My Own Teacher (75 *minutes*) (page 306)*

### **Purposes: 3 R's Practice**

- a. Reflection on 3 R's use
- b. Practice of 3 R's
- c. Learning to self-regulate and monitor one's tough and clean play and emotions

## Agenda

1. Review log of 3 R's use/Reflection period (10 **minutes**)
  - a. What went right with your practice of the 3 R's?
  - b. What went wrong with your practice?
  - c. General Reflections?
  - d. How can improve your practice of the 3 R's?
2. Review log of imagery practice (discussion and review homework on page 305) (10 **minutes**)
  - a. Were you able to clearly see yourself successfully use your 3 R's?
  - b. Were you able to control the imagery so you could see the whole thing?
  - c. Were you able to see and feel yourself being successful using the 3 R's?
  - d. How confident are you in using the 3 R's?
3. Game video of positive and negative responses/reflection & discussion (20 **minutes**)
  - a. Show clips from the previous games (good & bad instances of aggressive and clean play).
  - b. Set the situation by asking the player to reflect on what he or she was thinking and feeling in this situation.
  - c. Ask the player to take notes about their reaction to the video
  - d. Allow the player to react to the situation.
  - e. Probe to understand exactly what is occurring in these situations.
  - f. This is a chance to reinforce what the player is doing right!
4. Practice 3 R's: Role Play situations in video (10 **minutes**)
5. Go to "Being my own teacher" on page 308 (5 **minutes**)
  - a. Discuss self-regulation and monitoring one's own tough and clean play and emotions by reading the following points
    - i. To master a skill or ability means to be able to use it, execute it when you need it, with success.
    - ii. Great hockey players have mastered the ability to control their emotions and remain emotionally tough by working on it throughout the season.
    - iii. Great players also continually monitor their own progress, evaluate it, and find ways to improve.
    - iv. The player takes over from the teacher and monitors his or her own success.
    - v. This is the goal for our meetings. In the end, you will become your own teacher. You will evaluate, monitor, and make changes to be successful in being emotionally tough.

- vi. To become your own teacher is a big step towards reaching your potential as a hockey player.
      - vii. Players who have learned to be their own teacher still asks for feedback and advice from others, and are in a better position to use that feedback and advice.
    - b. Give example situations and player responds with how they would deal with it positively and productively
      - i. The ultimate questions to ask the player are:
        - 1. “Can you continue to play tough and clean hockey when the program is over?”
        - 2. “Will you continue to practice the skills necessary to play tough and clean hockey and be emotionally tough?”
6. Move to “How do I become my own teacher?” (page 308) (10 **minutes**)
- a. Read the following points from the handout and discuss:
    - i. You have already started to become your own teacher.
    - ii. With the knowledge you have, all that is left is to make the commitment to monitor and regulate your emotional toughness.
    - iii. When you commit to playing tough and clean hockey and constantly working on your emotional toughness skills, you have become your own teacher.
    - iv. Being your own teacher also requires that you reflect on each practice, game, scrimmage and determine how you did. Use the logs in this handout to continue monitor your progress in playing tough and clean hockey and remaining emotionally tough.
    - v. Set goals to practice your emotional toughness skills (such as centering and the 3 R’s) 3-4 times per week.
    - vi. Always learn from your good and bad experiences. Make a plan to improve, and then move on.
  - b. Ask the player how he or she might be his or her own teacher. What strategies are they using or will they use to continue to improve?
  - c. On page 309, have the player list 3-4 goals in the section “What am I Going to Do to *“Play Tough and Clean Hockey the next 2 weeks?”*”
7. Move to “Commitment” Section (page 309) (5 **minutes**)
- a. Emphasize commitment to these values of tough and clean hockey and respect for others and one’s self
  - b. Read the quote and discuss what it means (at the bottom of the page)
  - c. Have the player sign the commitment statement.
8. Homework: Continue practice of 3 R’s and centering and log it, now with imagery (5 **minutes**)
- a. Review practice and take notes using the “Post-practice reflection” on page 310.

**Imagery Practice of 3 R's Log** \_\_\_\_ (practice 2 times per day, 5 minutes each time and log practice)

**3 R's Practice/Reflection** \_\_\_\_ (physically practice the steps 5 times, once per day & use it in practice and games as needed – put notes in the log)

*Session 8: 3 R's Practice/ Being Emotionally Tough in all Walks of Life (85 minutes)*  
(page 310)

**Purposes: 3 R's Practice**

- a. Reflection on 3 R's use
- b. Practice of 3 R's
- c. Recognizing that emotional toughness and the 3 R's are useful in other life areas

**Agenda**

1. Review commitment goals from last session (page 309) (10 minutes)
  - a. How have your attempts been to meet your goals?
  - b. Why do you think you've been successful or unsuccessful in meeting your goals from last week?
  - c. What could you do to overcome obstacles to meeting your goals?
  - d. Reset goals if necessary or reaffirm commitment to meeting goals.
2. Review log of 3 R's use/Reflection period (10 minutes)
  - a. What went right with your practice of the 3 R's?
  - b. What went wrong with your practice?
  - c. General reflections?
  - d. How can improve your practice of the 3 R's?
3. Review log of imagery practice (discussion and review homework on page 305) (10 minutes)
  - a. Were you able to clearly see yourself successfully use your 3 R's?
  - b. Were you able to control the imagery so you could see the whole thing?
  - c. Were you able to see and feel yourself being successful using the 3 R's?
  - d. How confident are you in using the 3 R's?
4. Game video of positive and negative responses/reflection & discussion (20 minutes)
  - a. Show clips from the previous games (good & bad instances of aggressive and clean play).
  - b. Set the situation by asking the player to reflect on what he or she was thinking and feeling in this situation.
  - c. Ask the player to take notes about their reaction to the video
  - d. Allow the player to react to the situation.

- e. Probe to understand exactly what is occurring in these situations.
- f. This is a chance to reinforce what the player is doing right!

5. Practice 3 R's: Role Play situations in video (10 **minutes**)

6. Discussion of how the 3 R's can be used in other walks of life (page 312) (10 **minutes**)

NOTE: Not sure if you are planning to use real life examples here, but I think there are some good ones out there, where athletes didn't transfer their skills to the rest of their lives.

- a. Emphasize that emotional toughness can apply to other areas of your life beyond hockey.
- b. Have the participant think for a moment of times when being emotionally tough in life would help him or her then list them on page 312.
  - i. Have participant come up with situations and how would use 3 R's; discuss adjustments
  - ii. Provide examples if necessary such as:
    - 1. Avoid a fight in school because walk away using 3 R's
    - 2. Use deep breathing and centering to relax before a big test
    - 3. A sibling pushes you in the back and instead of fighting back you just ignore them
- c. Talk about how the player can remain emotionally tough in the situations they listed. (5 **minutes**)
  - i. Write these strategies in the space provided.
- d. Finish with the player setting several goals to use 3 R's outside of hockey emphasizing that: (5 **minutes**)
  - i. In life situations where it is important to be emotionally tough, set goals to do so.
  - ii. For example, "When someone calls me names at school, I will use my 3 R's to keep my composure."
  - iii. What are your goals for using your emotional toughness skills in life?
  - iv. The player should now list several goals for using their emotional toughness skills outside the program

7. Homework: Continue practice of 3 R's and log it, now with imagery (5 **minutes**)  
Review practice and take notes using the "Post-practice reflection" on page 318.

**Imagery Practice of 3 R's Log** \_\_\_\_ (practice 2 times per day, 5 minutes each time and log practice)

**3 R's Practice/Reflection** \_\_\_\_ (physically practice the steps 5 times, once per day & use it in practice and games as needed – put notes in the log)

*Session 9: The Final Buzzer and What's Next (80 minutes) (page 313)*

**Purposes: The Final Buzzer and What's Next: Program End and Goal Setting for Continued Tough and Clean Hockey and Emotional Toughness**

- a. Reflection on 3 R's use
- b. Review the total program; ups and downs
- c. Discuss where to go next
- d. Set goals for continued emotional toughness and tough and clean play
- e. Administer program manipulation test and evaluation

**Agenda**

1. Review logs of 3 R's use/reflect on its success in participant's life (page 318) (10 minutes)
  - a. What went right with your practice of the 3 R's?
  - b. What went wrong with your practice?
  - a. How can improve your practice of the 3 R's?
2. Review the skills that the player learned by asking the player first what he or she learned. (2 minutes)
  - a. After player responses point out the skills learned under "Program Wrap-up" (page 313)
3. Move to "Continuing to use your emotional toughness skills" (10 minutes)
  - a. Read the points in the section and at point B have the player reflect on how using in their life has been going (goals from page 313 set earlier)
  - b. Have the player talk about other situations or variations of using the 3 R's and emotional toughness in their life.
  - c. Read points C & D relating it back to hockey and playing tough and clean hockey.
4. Discussion on what is next for the participant: Self-regulation! *PLAYING TOUGH AND CLEAN HOCKEY: NOW IT'S YOUR RESPONSIBILITY TO CONTINUE TO PRACTICE EMOTIONAL TOUGHNESS SKILLS!* (page 314) (15 minutes)
  - a. Emphasize must continue to monitor 3 R's and tough and clean hockey
  - b. Tough and Clean Challenge: Set goals for continued commitment to emotional toughness and tough and clean play
  - c. Have the player list goals for continuing to play tough and clean hockey
  - d. Hold a discussion on how he or she will achieve these goals



5. Hold a discussion on the total program's effectiveness what went right, wrong, the ups and downs (5-10 **minutes**)
6. Administer program manipulation test (10 **minutes**)
7. Give program evaluation (10 **minutes**)
8. The close! Show video montage (set to music) of player's success in the program. Give video to the player to keep. Offer continued services in the future. Thank you for their involvement and congratulate them for finishing the program. (10 **minutes**)
9. Set post-program interview date and time.
10. End with any questions or comments from the player.

## APPENDIX K

### Procedural Reliability Assessment (sample page only)

#### ***Program Introduction and Session 1: “Playing Tough and Clean Hockey” (page 6)***

#### ***Session #1: Playing Tough and Clean Hockey (65-70 **minutes**)***

#### ***Warm-up: Program Introduction (20 **minutes**)***

**\*\* Begin by showing clip from “Checking from Behind” video (10 **minutes**)**

- E. Show video clips of players using aggressive behaviors and then hurting a player or being hurt
- F. Shock into buy-in to the program, emphasize to player that players do get hurt from playing dirty and aggressive hockey.
- C. Ask player what he or she saw in the video.

**\*\*\* Discussion: Ask the player if he believes that he plays dirty and aggressive. Also, ask if he believes he needs to change his on-ice behavior.**

(Here you are attempting to see if the player is contemplating change or is in pre-contemplation. Will influence how you approach the program. In pre-contemplation need more sell, whereas those in action just need the tools!

3. Introduce the program – page 6: “Playing Tough and Clean Hockey” (5 **minutes**)

Procedural  
Reliability  
Check

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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## APPENDIX L

### Program Review Letter to Reviewers

Dear Cal and Peter,

Thanks for agreeing to review the Playing Tough and Clean Hockey Program. I am conducting this program, and evaluating its effectiveness, to complete my doctoral dissertation at UNC Greensboro. Dan Gould, as you probably know, is my advisor. This letter serves the purpose of providing your role in reviewing the program as well as background information about the program. Sorry about the length of this letter, but I hope it would provide the information you need to review the program.

The program you will be reviewing has been in formulation for 3 years. The program started as a team program. However, my experiences in implementing this program highlighted how it could be much more effective in a one-on-one setting. The Playing Tough and Clean Hockey Program serves as an educational program to teach players emotional and aggression management skills. But, as you mentioned earlier Cal, it is more than just mental skills. It is also about a perspective of playing a tough and clean style of hockey, it is about respect for opponents, understanding your self, and it is about sportsmanship. The program I have attached has been revised into an individual consultation format where players receive 12 sessions of the program. Due to time restrictions, I may have to cut it back to 9 sessions in this study. (If you have any suggestions on how please feel free to let me know!) Relative to the study of this program, it is a single-subject design with baseline and treatment periods. About midway through the season the program will be implemented (December or January start).

The purpose of the review is to do a formative evaluation of the Playing Tough and Clean Hockey Program. It is not enough to know if the players reduced their aggression and became emotionally tough (outcome data), I would like to know that the program, and the process of the program, created this change. The first step in conducting this program evaluation is to have expert reviewers in sport psychology and hockey provide feedback on the program. This is where you come in – as the expert reviewers. Your role as reviewer is to read the Playing Tough and Clean Hockey instructor guide and program handout and provide feedback relative to several questions.

- 1. Is the program well thought out and can it make the change in behavior it is designed for (reducing aggression)?**
- 2. Are the content of the program and the skills appropriate in meeting the purposes of the program?**
- 3. Are the exercises appropriate in sufficiently teaching the program?**
- 4. Does the flow of the program make sense (i.e., chronological ordering of content)?**
- 5. Does the program have face validity in the hockey community? (Will players believe that this program can help them?)**

Please track your changes directly on the handout and instructor guide and return the two files attached via email to [lauerl@msu.edu](mailto:lauerl@msu.edu). If it is easier, you can print it out and mail your comments to me. The address is below. If possible, I would like your edits and comments by November 29. Please let me know if you have any conflicts or concerns. Thanks, I really appreciate both of you taking the time to review this program.

Larry Lauer  
Institute for the Study of Youth Sports  
Michigan State University  
209 IM Sports Circle  
East Lansing, MI 48824-1049  
(517) 353-5395

### *Study Purposes*

The primary purpose of this study is to conduct the ‘Playing Tough and Clean Hockey Program’ with aggressive ice hockey players and examine its influence on the emotional control, emotional toughness, and aggressive behavior of participants. The secondary purpose of this study is to conduct a formative or process evaluation (e.g., examine program implementation, player learning and use of the program and skills) of the program.

### *Hypotheses*

The first hypothesis is that players participating in the program will feel increased emotional control and emotional toughness following implementation of the program. The second hypothesis is that players will exhibit fewer acts of aggression following the program’s implementation.

### *Proposed Outcome of this Program*

If the program proves to be successful in reducing aggression and enhancing emotional toughness in hockey players, I would like it to be available to players, parents, coaches, administrators, and sport psychology professionals. For coaches, parents, players, and administrators in hockey a shorter program with 15-30 minutes talks would be created from the program’s framework. In addition, workshops could be conducted on

this topic. For sport psychology professionals this program could provide a template for intervening and reducing aggressive behavior in youth hockey.

*A Need Exists to Control Emotion and Aggression in Youth Ice Hockey*

There is clearly a significant need to control emotions and reduce aggressive behavior in hockey. Yet, hockey players need to be physically, mentally, and emotionally tough to be successful. To be a good hockey player one needs to be strong, assertive, and play with much intensity and effort. John Davidson, hockey analyst on ABC, emphasized that to be successful “you have to play tough and play smart.”

The problem is that the line between what constitutes fair, hard play and aggression is not always clear to youth players (Morra & Smith, 1996). Therefore, there is a need to teach players to play the game “tough” or intensely while playing it clean (i.e., assertive, not aggressive) by learning emotional control skills in adverse situations (i.e., emotional toughness). The ‘Playing Tough and Clean Hockey Program’ was developed to teach players to maintain emotional control and enhance emotional toughness to reduce aggressive behavior while still playing with intensity (Lauer et al., 2003).

*‘Playing Tough and Clean Hockey Program’*

A program was created to specifically meet the objective of reducing aggression in youth ice hockey by enhancing emotional control and emotional toughness. In its original version, the ‘Playing Tough and Clean Hockey Program’ was a 7-session team program, on- and off-ice, with a total of over 10 hours of contact time (Lauer et al., 2003). The program accounts for the tough and physical nature of the sport, while emphasizing that hockey should be played within the rules with no intent to injure or harm an opponent.

Thus, the 'Playing Tough and Clean Hockey Program' is contextually bound in situations in hockey that produce anger, frustration, and embarrassment and lead to aggression.

*Emotional toughness.* The process of reducing aggression is to be obtained by facilitating emotional toughness. Emotional toughness is a more specific form of emotional control -- the ability to respond positively to adverse or provoking situations. This concept of emotional toughness derives from Botterill's (1996) notion of emotional resiliency and Goleman's (1995) emotional intelligence. Emotional resiliency is "the ability to accept, harness, and respond to the full spectrum of emotions" (p. 29) that an athlete feels in competition. An emotionally tough hockey player understands the emotions he or she is feeling, how these emotions are related to the situation he or she is in, and most importantly, how to control their responses in a socially acceptable and productive manner. For example, an emotionally tough player may become angry when checked from behind, would accept this feeling as natural, and would respond by focusing on playing the game instead of retaliating. Hence, players prepare to be emotionally tough by developing an on-ice routine to deal with their emotions.

*The 3 R's Routine for emotional toughness.* The main technique developed for controlling emotions and negative thoughts on the ice was the "3 R's" routine for emotional toughness (i.e., react, relax, refocus). The 3 R's were adapted from Shane Murphy's 'Four Point Plan to Refocus' (p. 181, 1996) with the purpose of creating a brief and powerful routine players could use on and off the ice to maintain emotional toughness.

The 3 R's are react, relax, and refocus. The steps of the routine are as follows. First, players are trained to react to provoking situations or "hot buttons" with a positive

response. Second, players learn to relax by using a centering, or one-breath relaxation technique. Third, players are taught to refocus using a cue word, phrase, or image that gets them to focus on playing hockey and not playing aggressively. An example of the 3 R's is for a player to respond to an aggressive hit by reacting to their frustration with an internal cue to 'ignore it,' a centering breath to relax, and a refocusing cue of 'find the man' to get back into the play. (Note: These techniques are explained in much greater detail in the 'Playing Tough and Clean Hockey Program'). This routine encompasses all of the components of the program and puts it into an individualized routine that a player masters and uses in competition. Hence, transfer of emotional toughness skills is emphasized. This technique is first taught off the ice in the meeting room and then role-played in "hot button" or emotionally-charged situations.

*Program components.* Due to the success of previous stress management and cognitive restructuring interventions with aggressive athletes (Connelly, 1988; Silva, 1982), and a review of emotion and aggression management, the program teaches players to control emotions via breathing and relaxation skills, restructuring how one views aggression and thoughts about certain provoking situations, and refocusing cue words. The list of skills and topics addressed in the program include:

- Empathy and compassion for opponents,
- Education on aggressive and assertive behaviors,
- Education on emotions and developing emotional toughness,
- Controlled breathing,
- Centering (on-ice, one breath relaxation technique),
- Thought stopping,



- Refocusing cues, and,
- An on-ice 3 R's (respond, relax, refocus) routine.

*Activities and exercises to learn program components.* In any intervention success is directly influenced by the types of activities and exercises included and their connection to program skills or components. Understanding the literature on emotion and aggression control, the program developers developed a matrix of program exercises to meet the components listed above (see page xx). This program is multimodal in nature; cognitive, somatic, and behavioral techniques are implemented with the purposes of the program in mind. From inspecting the table, one will also recognize the inclusion of role-plays and awareness exercises due to their successful implementation in earlier interventions (such as Brunelle et al., 1999). Finally, material and skills are taught in a progressive manner so that foundational values and perspectives are analyzed first, then an understanding of emotions is established, and finally techniques to control emotion and aggression are mastered.

The rationale for this set of skills and topics in a program is based on initially breaking through the barrier that aggression is 'cool.' Hence, the ideas of empathy and compassion for opponents are discussed. Second, an exercise is implemented to highlight the differences between 'dirty and aggressive' and 'tough and clean' behaviors. The terms 'dirty and aggressive' and 'tough and clean' are used in this program due to the double meaning of aggression in sport and psychology. Moreover, Nash and Lerner (1981) suggested that players would much easier make a distinction based on more descriptive terms such as 'dirty' and 'clean.' These terms are defined to players and consensus is reached on what behaviors constitute the two categories.

*Transferring to game situations.* Emotional control techniques are then integrated into the aforementioned on-ice 3 R's emotional toughness routine to effectively transfer skills in to game situations. To transfer these skills, players are asked to use imagery of effectively using their 3 R's in a variety of 'hot button' situations. Moreover, players are asked to discuss any anticipated roadblocks to mastering and using their 3 R's. The instructor and player then determine how they will overcome these roadblocks.

*Revising the original team-version of the Playing Tough and Clean Hockey Program into an individual Program.* The program was adjusted so it can be implemented in individual sessions over a 12-week period. The rationale for this change was that individual interventions require different types of exercises that do not involve groups. Moreover, from the initial study it was felt that more 1-on-1 contact and practice of skills along with reflection would enhance the effectiveness of the program. Specifically, sessions will be shortened and group exercises will be adjusted to work with an individual. More time will be allotted for discussion, role-playing, and reflection of using the 3 R's in practices and games. In addition, more time will be spent on learning skills such as centering, controlled breathing, and refocusing. (Note: In the original letter, the program matrix followed. In interest of space please see Appendix I).

## APPENDIX M

Expert Review Summary Recommendations and Revisions

# Expert Review

## Playing Tough and Clean Hockey Program



Shaun Best / Reuters

**Larry Lauer, MS**

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University of North Carolina Greensboro  
Mental Coaching  
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Institute for the Study of Youth Sports  
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Reviewers: Dr. Cal Botterill & Dr. Peter Haberl

## Expert Review of the Playing Tough and Clean Hockey Program

Cal and Peter,

I hope you are doing well. First, I want to thank you for assisting me in creating the best possible program to reduce aggression in youth hockey players. I greatly appreciate your recommendations. It is clear that you put some effort into reviewing this program. The feedback was excellent. It challenged me to think about the program in ways either I had not envisioned or had thought about, but done nothing about it. Thus, your feedback served its purpose; it was thought-provoking and led to revisions.

Second, I am sending this file to update you on all of the recommendations and my response to them. These responses, and the subsequent revisions to the program and instructor guide, came from a long period of reflection and discussion with Dan Gould. I didn't call for clarification on your recommendations because I thought they made sense and were appropriate. That being said, if you see a misinterpretation on my part while reviewing this summary please give me a call or send an email. It would be great to talk to you, but I'm trying not to take up more of your time (than I already have).

Therefore, please take a look at the summary of major recommendations and revisions. You will see that many of the recommendations will be used, however, there were several that Dan and I decided against or adjusted slightly. This is not to say that these recommendations weren't appropriate, in reality they were excellent recommendations that we decided against either because we felt we couldn't do it at this time or we were committed in another direction.

Below are the questions I presented to you for the review. If you have any concerns about the program relative to these questions please let me know.

- 1. Is the program well thought out and can it make the change in behavior it is designed for (reducing aggression)?**
- 2. Are the content of the program and the skills appropriate in meeting the purposes of the program?**
- 3. Are the exercises appropriate in sufficiently teaching the program?**
- 4. Does the flow of the program make sense (i.e., chronological ordering of content)?**

**5. Does the program have face validity in the hockey community? (Will players believe that this program can help them?)**

The program begins December 17<sup>th</sup> with the first player. So, if you have any major concerns please pass them on by then. I should also mention due to time constraints I have to cut the program down to 8-9 sessions (hockey season ends March 5 in Michigan). As of now, I plan to combine some of the shorter sessions, and remove sessions dedicated to video review and reflection (these components still exist, but they are combined with other activities). I will forward this condensed program as well as the full program later this month. If you have any suggestions relative to condensing the program please let me know.

Again, I want to thank you for your help. Your reviews were awesome!

Happy holidays,

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## Review of Major Recommendations & Revisions

Cal on Nov. 22:

1. Treatment is quite comprehensive--My main suggestion would be, to make sure in imagery/rehearsal sections that "triggering" strong emotions PRECEDE rehearsal!! I think it's the key to "emotional inoculation".....

- Response: I think you're absolutely correct. I want to simulate their feelings in their hot button situations. This will help them prepare.
- Revision: Added instructions in the instructor guide to have players generate the thoughts and feelings they have in hot button situations.

2. Curious about the 3 R's especially "react"--I notice on Pg.6 you use "respond" which I like better..... "React" seems too related to previous instincts or impulses?? I wonder in "Ready" shouldn't be the 1st cue--signaling "ready for this"?? Then followed by respond, relax, refocus??

- Response: Using respond as the first r is an excellent suggestion. I've thought about using respond (clearly by the number times it is written in the program), so you have given me the push to make the change. I think I stayed with react because it was suggested elsewhere and to be honest "react" rolled off the tongue a little easier. Relative to the "ready" as the 1<sup>st</sup> cue, Dan and I both felt that it is a good idea, however, we want the players to use the routine on the ice, even during a shift to refocus. Thus, to keep it brief and make it effective on the ice I felt we needed to stick to 3. Plus, once something triggers your hot button I think we need to immediately go to the positive response step. Finally, I think we need to see if the 3 R's are truly effective.
- Revision: Switch first "r" to "respond."

3. Did you think about a short treatment element on "Emotional Management" (Botterill, 96) in stress mgmt section? Managing relationships, school feelings, etc. well can sometimes improve "emotional health" & lower one's emotional threshold???

- Response: Great recommendation Cal! I agree that managing stress and emotion outside of hockey will help to lessen the emotional baggage players bring into the rink. Plus, I want this program to have effects outside of hockey, so a section on emotional management away from the rink makes great sense.
- Revision: Added a section on emotional management outside the rink in Session 5. Place an emphasis on understanding things outside of hockey affect your hockey, we need to deal with these things (and accepting these emotions for what they are) and when we are in the rink, we need to focus on hockey. Introduce the idea of "parking".

4. How much 1-on-1 contact is planned (in person or e-mail)?? This is probably the key to follow-thru, reinforcement, & problem-solving (& program affects)!! Note: I think e-mail (or phone) is an exciting option for "part" of this.....

- Response: I think you are absolutely right! At this point (we are in the baseline period right now) I've been going to the rink and seeing the players before practice just to say hi and pick up any data (post-game reports). I think follow-up, reinforcement, & problem solving could be attempted via email, but several of my participants don't have access to a working computer at home. You have sparked thoughts to have a phone conversation with each player the day after their weekend games. This becomes especially as I think about cutting back on the number of sessions.
- Revision: Will add a component for reinforcing my messages prior to games (pre-game keys maybe?) and also do phone follow-ups post game.

5. Are subject baselines going to be "different" to counteract possible "seasonal" effects--fatigue etc.??

- Response: Good question. I will be starting the intervention at different times of the season to counteract possible season effects. However, the length of time between program start dates is only going to be a week or less because of time constraints.

6. How are subjects to be selected?? (aggressive??) Affect on chances of being effective??

- Response: Another excellent question that Peter also brought up. I've spent over 3 months recruiting 5 participants! My selection criteria were players that are physical and intense, receive penalty minutes for aggressive play, and will commit to doing 12 sessions and to change. I talked a great deal with coaches and parents about these criteria in attempting to select the right players. I feel 3 of the 5 are definitely the type of kid I'm looking for; good kid, but loses control on the ice. The two others aren't as "dirty" or "chippy", but still have their moments.

Peter on Nov. 24: (many of Peter's comments are tracked in the document itself)

1. Is there any kind of baseline assessment to know that the athletes actually need the "treatment", for example do you assess the number of aggressive acts, their level (or lack thereof) of empathy, their emotional control, mental toughness?

- Response: Great question Peter. I do have a baseline assessment of aggressive acts (as coded off of game video), emotional toughness, performance, and intensity of emotion and aggressive feelings. I did not assess empathy and now

wished I had. I think this is an addition for the next program study since the baseline is near its end.

2. Do you make a distinction between cold, instrumental aggression, and hot, retaliatory aggression? If so, the first one might be more responsive and be more influenced by the “empathy” piece of the intervention, whereas the second one might be much more open to the 3’R’s approach (and benefit from it).

- Response: I do make a distinction but it was not clear in the instructor guide or program handbook. I think your comments are “spot on”, players will tend to use one type of aggression or another and this determines the treatment. I’m picking up for each player, from pre-program interviews and video, when he feels it is ok to be dirty and aggressive and the types of aggressive behavior he is prone to. This is why I want the program to be flexible enough to individualize to the player. As with any program there is the step-by-step process everyone goes through which I’ve tried to develop so that it covers both types of aggressive behavior. I do think the reflection, video reviews, and general conversations are times when I can make a dent with those that use cold, instrumental aggression.
- Revision: Added to session 1 a description of two types of aggression and then ask player if he is prone to one or the other more often. Also, will work to develop an even more detailed understanding of the player in the interview by asking them when they lose emotional control and when is it okay to be dirty and aggressive. I think some of this will also be covered in the hot button section.

3. Provide the benefits of aggression and then counter argue them.

- Response: Again an excellent recommendation. I failed to clarify this in the first session. But, I want to make a concerted effort to overcome attitudes that aggressive behavior is cool or part of the game. Thus, being able to counter argue positive benefits of aggression is important. It’s like a persuasive presentation, reveal the positive benefits of something and then show why it is not the way to go with more convincing arguments. As you allude to Peter, I need to have good counterarguments ready which I have added to the instructor guide. Your pro’s vs. con’s exercise was very helpful.
- Revision: Added a pro’s vs. con’s consequences of aggression analysis to session 1 and removed exercise to list as many negative consequences as possible. Have listed counterarguments in the instructor guide.

4. May not need 3 R’s just the 1<sup>st</sup> R if change cognitions.

- Response: Peter, I agree with you and this is something that I have thought about very briefly in the past. Dan also agreed. We felt that at first we need to make some behavioral changes and the 3 R’s can do this. Dan called it a “band-aid approach” or “stop the hemorrhaging, then sew the veins.” A player that manages



his or her aggression well after multiple sessions and much practice may be able to use the 1<sup>st</sup> R once they change their cognitions. While in the program, however, I want them to make sure they are refocusing back on the game. This is great food for thought and has implications for working with players long and short term.

5. You do have control over your emotions by the way you think.

- Response: Again, I think this is a great comment that I agree with, and have not clearly delineated in the program. I do think that if we change some of the cognitions that lend themselves to aggression then some of the more debilitating emotions will subside on the ice. However, and Dan and I talked about this at great length, some emotions almost seem synaptic in their etiology and others are moderated by cognitive appraisal. Dan put it that “you have some control over how long the fuse is, but the head you take into the game affects your behavior.”
- Revisions: I made the statement in session 2 that you have a little control over the emotions you feel, but you have more control over how you respond. This is a revision from you don’t have control over the emotions you feel, only your response.